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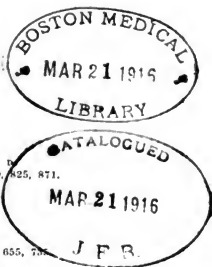
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COUNTY SOCIETY REPORTS

Campbell-Kenton—The regular monthly meeting of the Campbell-Kenton County Medical Society was held on the evening of September 19, 1912, with the President, J. G. Furnish, in the chair.

The minutes of the previous meeting were read and approved.

CASE REPORTS:

X-ray plate of "Hour-Glass Stomach," was shown by **Dr. Rankin**.

On motion, made and carried, Drs. Rockhill and Dunham, of Cincinnati, Ohio, were given the privilege of the floor.

Application of C. N. Heisel was read and on motion, made and carried, the rules were suspended and a ballot ordered spread. Dr. Heisel was unanimously elected to membership.

J. R. Meek extended to the Society the use of the Anti-Tuberculosis League quarters as a meeting place.

W. G. Brown read a paper on "Relative Value of Early Tests for Tuberculosis." Discussed by Drs. Rockhill, Dunham, Meek, Nelson, Anderson, Rankin, McCullum, Furnish, George Herman, and Jos. Back.

Number of members present, twenty-eight.

Adjourned to meet October 17, 1912.

J. A. RYAN, Secretary.

Campbell-Kenton—The monthly meeting of the Campbell-Kenton County Medical Society was held on October 17, 1912, with J. G. Furnish in the chair.

The minutes of the previous meeting were read and approved.

Application of C. A. Sutton, by demit from Pastatune-Camden-Dave County Medical Society of North Carolina, was received. Dr. Sutton was admitted to membership.

Application of R. G. Boehm was referred to the Board of Censors.

A motion by Dr. Merriam, that the present Program Committee be reappointed for the ensuing year was carried.

Moved and carried that the Publicity Committee, if they deem it feasible, make arrangements to entertain speakers from the "Speakers' Bureau" as outlined by the A. M. A.

J. A. Hohnstedt read a paper on "What is Rheumatism," Discussion by Drs. Newman, Caldwell, Brown and Bonar.

There were twenty-four members present.

Adjourned to meet November 21, 1912.

J. A. RYAN, Secretary.

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OBSTETRICS
EDWARD SPEIDEL

MENTAL AND NERVOUS DISEASES
GEO. P. SPRAGUE

EYE, EAR, NOSE AND THROAT
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PRACTICE OF MEDICINE
W. F. HOGGESS

VOL. X.

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EDITORIAL

THE NEW YEAR.

The New Year opens up with the Kentucky State Medical Association in better position in every way than it has ever been. The medical profession of Kentucky has never been more active and has never accomplished as much as a profession as it did last year. In every county our societies have been active in the education of the public as to the prevention of diseases and as to the dangers of worthless classes of patent medicine. The new Bureau of Vital Statistics has received the practically unanimous support of the doctors of the State. Few other states have accomplished as much in ten years in this work as has been accomplished in Kentucky in one. It will be a revelation to most of us that 17 per cent. of all deaths in our Commonwealth are due to tuberculosis in some one of its forms, and that 41 per cent. of the total number of deaths have been due to preventable diseases. Equally striking, is the report of 947 deaths from typhoid fever and 463 from diphtheria or membranous croup. The people must be educated as to the meaning of 392 deaths from measles and 338 from whooping cough, which are ordinarily considered by them as the harmless diseases of childhood. All of the above figures are for the first eleven months of the new law. It is rather encouraging that during this period that while 27,956 deaths have been recorded, that 55,307 births, including still births from both figures, are on file. There is no question but that Dr. Heizer's Bureau has made good, that its value to the profession and to the people in promoting longer life and better health will soon be appreciated by everybody, and that the lessons of this year emphasize the importance of every doctor in Kentucky making more careful diagnosis,

keeping more careful records, and being even more attentive to the details and promptitude, which are necessary to making the Kentucky Bureau of Vital Statistics better than in any other state.

The same record of successful accomplishment is due the Bureau of Bacteriology. Dr. South has examined and reported more than seven times as many specimens as have been examined by any other state laboratory in the first year of its existence. One-third of the doctors of the State have sent in specimens and more than fifty of the most active practitioners in Kentucky are sending from three to twelve specimens a week. All this is being done without a penny's cost to the profession and it is, of course, most helpful to the sick people of the State.

The Bureau of Sanitary Engineering has accomplished a great deal in the preliminary survey of the public water supply of the State. Under the active management of Prof. E. H. Mark, the water laboratory is now in active operation and specimens are being examined daily from all over the State. It is especially urged that physicians and others desiring sanitary water analysis, write for the laboratory containers and instructions as to how to obtain samples. It is, also, to be remembered that industrial analyses are not made in the laboratory of the Board for obvious reasons.

A thorough survey as to the prevalence of hookworm has been begun. Dr. South has found the disease to be in existence in 21 counties. These counties are typical of all the others as to health conditions. To succeed in making such a survey of real value, the co-operation of every physician in the State is required. Our Council has about decided to ask every doctor to select ten children in his environment, who go barefooted a greater part of the year, whose home have no

privies, and who looks anaemic or pot-bellied and stunted, and obtain specimens of feces for examination in the laboratory. As soon as this has been done, we will be able to begin the active work of education necessary to teaching the people, themselves, not only how to prevent this but most of the other preventable diseases.

The especial congratulations of the Association are to be extended to our Medico-Legal Committee for its effective work in checking blackmailing during the year. Every unjust suit brought against our members has been successfully defended without cost to them. Many similar suits have been prevented, and in a very small number of instances where doctors have been obviously at fault, they have been kindly but firmly so advised as to enable them to make the best of a bad situation.

THE JOURNAL, itself, has a larger circulation and the largest income it has ever had. It is known to our physicians that every cent of its income is spent in printing a bigger and better JOURNAL. To this end, several improvements are proposed for the New Year. It is proposed to conduct a department, telling about the progress of reform in therapeutics that will help our physicians in a unanimous determination to get rid of the dishonest patent and proprietary medicine industry, as far as it is a burden to our sick people. In addition to this, we propose in conducting a news department which can only be made successful by the active cooperation of every reader. We want to know every thing of interest to the doctors in every county, news of epidemics, hospitals, interesting cases, marriages, births and deaths, public movements and everything else which concerns the doctor not only, individually, but as a citizen and a leader in his community, will be received and published. This department will be under the active charge of Miss Clyde Howell in the JOURNAL office of Bowling Green, and she will welcome suggestions and news items from every doctor in Kentucky. It is especially urged that clippings of general interest from local people be sent in. What the JOURNAL desires to do is to keep every other county familiar with what is going on in your county.

It is of the utmost importance that every member recall the fact that his county and state dues should be paid in to-day. Remember that your county secretary has his own work to do, and that you are not eligible for defense in the Medico-Legal Committee unless you are in good standing with your dues fully paid up.

THE REFORM IN PROPRIETARY MEDICINES.

Ever since the American Medical Association's Council on Pharmacy and Chemistry was organized, this JOURNAL and the Kentucky State Medical Association have been consistent champions of the American Medical Association's propaganda for reform in proprietary medicines. In furtherance of this work we have given considerable space to the reports of the Council on Pharmacy and Chemistry and this without caring in the least that such publications aroused the resentment of firms that had reason to shirk publicity.

All, or nearly all, the remedies that are on the market have been investigated by the Council and those found worthy of the physician's confidence are included in the book, "New and Nonofficial Remedies" and which should be in the library of every physician since it can be obtained for the cost of printing by writing the American Medical Association, 535 Dearborn Avenue, Chicago, and every physician can and should be posted in regard to reliable proprietary remedies. Inasmuch, however, as new remedies are constantly coming out and being investigated, it is proposed to establish a department where these may be discussed. This department is to be known as "The Truth about Medicines" and it will contain under "Reliable Medicines" brief descriptions of new substances which the Council examines and finds eligible for inclusion with New and Nonofficial Remedies. Under the head of "Reform in Medicines" we shall present general information in regard to the composition, quality and value of remedies of all kinds—particularly the nostrums and humbugs which are shown up in the reports of the Council on Pharmacy and Chemistry and the A. M. A. Chemical Laboratory.

In order that they may actively aid in the great reform tending towards rational therapeutics, our readers should give careful consideration to the facts brought out in this department. Correspondence with the Laboratory in Chicago is invited by members interested in this Department.

IN DEPREICATION OF THE NEGLECT IN GENERAL BY PHYSICIANS OF THE MEDICINAL TREATMENT OF DISEASE.

INTRODUCTORY.

This thesis assumes at the outset that the element of the medical profession that fancies itself ultra-progressive, is prejudiced against almost all of the empiric galenicals; that its tone is consistently pessimistic as regard prognoses as influenced by treatment in individual cases; and that it approves only of the neo-oogle

scientific remedies—and of these but mildly.

The grounds for this assumption must necessarily be comprised in the writer's experience and in his observations. They are, in brief: (1) The approving statement of an esteemed colleague that he has spent two weeks busily observing the methods of a first-class hospital on the Atlantic seaboard that maintains 600 beds without having known of half a dozen remedies having been prescribed; (2) The keenness that the graduates of the best American medical colleges almost invariably show in collecting and in reporting rare conditions and anomalies that more than often do not involve actual diseased condition nor interfere much, if at all, with the health of those exhibiting them in their persons, and the frank avowals of preference by the graduates aforesaid for such employment. (These expressions of preference are often coupled with confessions of distinct disgust for the routine work of general practice.) (3) The admissions that are current on every hand of the decline of the art of prescribing, thanks mostly to the unexaggerable politeness and complaisance of the "manufacturing" pharmacists, and the small recognition and support accorded to the real pharmacist, who seems destined not only eventually but even soon to be degraded into the manager of a soft-drink saloon; and (4) The unsatisfactory state of the sections devoted to the treatment of disease in every standard text-book without exception with which the writer has any comfortable familiarity.

The cognate branch of practice—*materia medica*—has fared but little better; for it cannot be denied that America has not yet produced anyone that has yet done for her budding medical sons what J. Mitchell Bruce did for his contemporaries and for some of their successors.

It seems distinctly an American habit to seek for some one to blame upon recognizing an untoward condition or tendency, and to stop with pointing out the unlucky victim for the occasion. If, haply, he be punished, not only is the penalty disproportionate and erratic; it may also obviate its own desired effects. It rarely, if ever, improves the avowed abuse.

It would be absurd to undertake to correct within the limits of a volume, such abuses as this writing states as prevailing, much the less of an editorial page. This writer hopes only to evince his entire earnestness in the matter, and to induce introspectiveness into the bosoms of a few in whose attention he rejoices. He rejects altogether the implication that whoever points out a grave fault must produce forthwith a specific remedy for it; because, if everyone but a philosopher were to be excluded from the province of induction,

criticism would languish and very soon perish, and progress would become impossible.

His limited acquaintance with, and his small practice of, the Christian faith has led him nevertheless to believe that the plan of redemption offered by Jesus Christ a scant score of centuries ago, comprised merely each person's improving *one person* and, of course, beginning upon himself. He denies any imputation of sacrilege in this connection; for if there be any person whomsoever that enjoys boundless opportunities for dispensing Christlike aids, comforts and benefits, surely that person is The Good Physician. It should matter little to such a real man that current practices in the Christian sects have apparently debased Christ's ideal almost completely into creeds and dogmas that permit their adherents to do about as they please and to try to make others do as they do. This ideal of Christ's suggestion remains a workable and a working plan for all improvements of importance.

The first Hippocratic maxim and the Biblical advice not to weary in well-doing embrace all essential directions needed by any modern medical man in carrying out his work of self-improvement. However, lest the writer incur the reproach of mere wordy preachiness, he promises hereby to give in some future issues at length, as well and as fully as may be permitted, his experiences and his observations regarding the treatment of several important common diseases.

W. F. A.

THE INDEX.

This issue contains an index of the JOURNAL from January, 1911, to January, 1912, inclusive. Each original article is indexed according to the leading word of the subject and cross-indexed when the caption embraced more than one topic.

Special attention and space has been given to the reports of County Societies so that if a file of the JOURNAL is kept by each society these may be used as the official minutes and easily referred to by their officers.

We urge the secretary of each society to report as fully as possible all the discussions, so that these physicians' names may be added to our list of contributors.

The contributors consists of a list of those who have written original articles, editorials, used the columns of the Forum, or discussed subjects in the county society.

There is an alphabetical list of all our advertisers for the year, reference to their pages have been necessarily omitted, but an abbreviated title of the products they represent is given so that our readers can readily refer to them.

MEMBRANOUS CROUP.

Laryngeal diphtheria (membranous croup) is probably as terrible a condition as ever confronts a physician and its death rate even under the best management is appalling. The following points gleaned from practical experience should be of interest to every practitioner.

1. It is time to drop the old name membranous croup, which tends to obscure the true nature of the disease and call it what it is—laryngeal and tracheal diphtheria.

2. It should be treated as diphtheria and massive doses of antitoxin should be given as soon as the diagnosis is reasonably certain. Ten thousand units is not too much for the initial dose.

3. All children who have been exposed should be immunized with 1000 units each.

4. Quarantine should be strictly observed.

5. While using all possible means to facilitate the expulsion of the loosening membrane, watch the chest and lips to keep accurate track of the amount of dyspnoea. If the lips become blue, the face pallid and if the sternum sinks far in with each effort of respiration, intubation or tracheotomy must be done at once.

Now which of these operations offers the patient the best chance of recovery?

Theoretically the answer is intubation, but practically I believe in tracheotomy for the following reasons:

1. Tracheotomy is done in the open where every move can be carefully observed. One can do just what one starts to do.

2. What little breathing space the child has is preserved intact till the tracheal tube is in place. In doing an intubation the child is frequently killed by suffocation in the clumsy efforts to introduce a tube which you cannot see into a hole which you cannot feel.

3. The tracheotomy tube is double and if it is blocked with membrane the inner tube can be easily removed by the nurse, cleaned and reinserted with no discomfort to the patient. If an intubation tube suddenly blocks up the child may die before relief can come.

4. When the membrane extends, as it frequently does, down into the trachea and bronchi, the tube may be easily removed, the child placed in tracheotomy position and with the aid of a common lamp and head mirror the trachea can be swabbed clean clear down to its bifurcation. Furthermore, glycothymoline or some other alkaline wash can be easily applied to the tracheal mucous membrane keeping the surface moist and clean.

5. The removal of an intubation tube is a difficult feat. Let anyone who doesn't believe this try it.

6. After the intubation tube is taken out it must often be re-introduced because of oedema or spasm of the larynx. I saw one case die in the nurse's arms while the doctor was vainly trying to re-introduce the tube. When a fenestrated outer tracheal tube is used one can test the condition of the larynx by simply putting the finger over the mouth of the tube and seeing whether the child can breathe freely through the mouth. The tracheal tube may be removed and replaced at will by the nurse with no danger whatever.

Now a few practical points about the operation.

1. The patient is placed on his back with head hanging over the edge of the bed. One nurse holds the baby while a second assists the doctor.

2. Very little anaesthesia is necessary. A few whiffs of chloroform only should be used after which a thorough infiltration of the tissues with 1-20 of one per cent cocaine.

3. Use a knife for the incision through skin and subcutaneous fat and then put it to one side.

4. The further dissection should be done with scissors having points like artery forceps which are very narrow but blunt so that they cannot puncture any vessel or do any other damage. If they are curved on the flat they are more convenient. This is a very fine method of dissection not only in this operation but in many others. In all the books describing tracheotomy we find the statement that the bleeding is the most troublesome thing. There really need be no bleeding. The muscles may be grasped by two artery forceps just as is done with the peritoneum in opening the abdominal cavity. These are lifted up and away from each other, the blunt scissors are pushed into the tissue between them, opened and pulled out. This tears the tissues longitudinally but causes no bleeding. Each layer is separated in the same way till the trachea is reached which need not consume 40 seconds in time.

5. A sharp tenaculum is hooked under the cricoid cartilage and the trachea thus brought well up in sight.

6. With a sharp knife a longitudinal slit is made in the trachea large enough to admit the tube.

7. With a short curved round needle a stout silk ligature is passed through each lip of the tracheal wound. Both ends of these ligatures are left hanging out of the wound on each side.

8. By pulling apart these ligatures the wound may be opened and the tube inserted and taken out at pleasure with very little disturbance to the patient. These ligatures are

left in place till the tube is permanently removed when they may be easily pulled out.

9. A nurse should be in constant attendance till the case is well. R. H. C.

A NEW EDITOR.

It is with considerable interest that we note the selection of Dr. Charles E. deM. Sajous, as Supervising Editor of the New York Medical Journal. We trust that under this new management the scientific excellence of the Journal will be continued, and that Dr. Charles E. deM. Sajous will be able to persuade the Elliott Publishing Company, who owns it, to bring its advertising pages up to a fair degree of honesty.

SCIENTIFIC EDITORIALS.

TONSILLECTOMY OR TONSILLOTOMY?

Having seen in consultation in the past few months, a number of the after affects of tonsillectomy, I am inclined to believe the Surgical pendulum has swung too far, and instead of radical conservatism we have reached radical radicalism.

The difference in the opinions of a large number of rhino-laryngologists is due to the uncertainty of our knowledge of the function of the gland. My own views, as expressed in the discussion of this subject at the last meeting of the A. M. A., in Chicago, has not changed. Because of the larger number of operators doing tonsillectomy and of the prominence of the necessity for relief from diseased adenoid and tonsils, on account of their causing rheumatism and other serious lesions in the body, leads me to ask with Joseph A. White, "is the present holocaust of tonsils necessary? Is there not too great a tendency to radicalism? And is there not a happy medium between the terrible onslaught of tonsils and a conservatism of neglected operative procedures which are really necessary and safer, hence the better plan?" Some of the sequelae above referred to which I have seen where the pillars of the soft palate were out of alignment due to cicatricial contraction causing tension and interference of palate movements, making swallowing a discomfort. As one child 14 years of age expressed it, "I do not swallow as good on one side as I do on the other." The anterior and posterior pillars were matted down by adhesions causing the traction to be so great around the fossa of Rosenmuller as to cause a partial closure of the eustachian tube with subsequent tinnitus. The great traction made with the tonsillar forceps which is necessary in some of the cases of submerged tonsils in order to pull them out so as to make a dissect-

ion, causes stretching of the tensor palati and levator palati group of muscles which cause loss of their tonicity, which results in the regurgitation of fluids through the nares. Five or ten years ago, I did tonsillectomy almost exclusively but in the last three or four years, except in selected cases, I do not dissect out the whole gland for reasons already published in several of my discussions. I see no justification of tonsillectomy as a routine practice in our surgical field. To sacrifice healthy tonsillar structures militates against an operator as a conservative surgeon, which is the first duty we owe our patients. The tonsils have efferent and afferent lymph channels which excrete and secrete elements that serve as a protectorate over the nature. Of this I am firmly convinced by clinical observation and this two-fold tonsillar function should be appreciated by the specialists more than the general practitioner. To prevent the intake and the output of deleterious elements should appeal to every student of physiology. "If we believe in the functional co-ordination of the glands with internal secretion, we must admit a compensatory ability and co-relation hypertrophy, for functional accommodation."—(Junus Glover). If this is true, why should we remove the first barricade or outer guard causing the deep structures of the inner guard to work at a risk of graver infection? Diseased tonsils cause serious systemic disturbance in two ways: first, when they are so large they produce a mechanical obstruction; second, when they are *phymosed*; by this I mean submerged with adhesions to the pillars, causing a retention of the natural secretion and the formation of caseous masses remaining for so long a time that these become purulent, and a slow sepsis is the result. The phymosed, adherent tonsils do far more injury than the large protruding ones. In the latter instance, the act of deglutition squeezes the retained secretion out of the crypts, thus draining them. Tonsillitis is usually a local manifestation of a constitutional or systemic disturbance. I do not believe that any cases of acute follicular tonsillitis are relieved without the use of systemic medication, and why should the tonsil which is a little enlarged and has a few follicles obstructed with cheesy masses in the crypts, be condemned to enucleation? Does the general surgeon excise lymph nodes in adenitis? On the contrary, he drains them. Does the gastronomic specialist snip off any portion of the buccal cavity in aphthous stomatitis? Does the dermatologist cut away any of the dermoid layer in the eruptive stage when the eruption is due to constitutional causes? These are somewhat parallel pictures to the tonsillar function.

The tonsil ranks in clinical importance with the appendix. Both appear to be insign-

nificant organs but to them more attention is drawn than to all the other organs put together. The function of both is still in obscurity and it is still the belief of many that we can get along without them as well as with them. It has been disputed by Mosher and others that the tonsil is a pathological formation, on the contrary he claims it is as much a part of the human organization as the thymus or thyroid gland, whatever its function may be. It is composed of tonsillar tissue and adenoid cells forming follicles and crypts which favor absorption and secretion. These layers of tissue are surrounded by a dense capsule of connecting tissue over which prolongations extend into the tonsil, dividing it into pockets or crypts. The gland lying between the anterior and posterior pillars of the palate united by mucous membrane attachments which are often mistaken for pathological adhesions, altho these attachments are often increased by repeated attacks of inflammation. These crypts are lined with stratified epithelium which are thicker than the surface membrane. I am in accord with the claim made that the gland acts as a barrier to the entrance of micro-organisms into the body, that it assists in leucocytosis, and produces phagocytes. In other words, "the healthy tonsil is a protective organ against infection and tho the crypts may be swarming with bacteria these stimulate its epithelial cells to throw out a ferment which in turn destroys the micro-organisms, a process known as bacterio-lysis"—(Wright). Often these cells lost their tone by pathological changes, local or constitutional, the process of bacterio-lysis is arrested and an infection takes place. I believe also that the function of the tonsil is to act as an eliminating organ for the toxins in the system. And being the point of least resistance, the infection is often first manifested there. That the tonsil in a diseased condition is a menace to the organism and is a focus of infection, has been demonstrated by an accumulated mass of evidence by observers, all over the world.

There are two routes of infection to the general system through the tonsils. One by way of the blood vessels and the other by way of the lymphatics. Bacteria pass along the lymph channels but do not penetrate the vessel walls, while the toxins do so, easily. Hence toxic infection of the system through the blood vessels, is much more common than the slower process of the lymphatic infection or bacteremia. An example of this is the rapid systemic symptoms of acute tonsillitis, whilst glandular enlargement at the angle of the jaw or cervical glands is rarely ever present at the beginning of an attack, and often not at all.

After many clinical tests and close observa-

tions on several hundred cases in the past 3 or four years, I am convinced that if the upper 1-3 or 1-2 of the tonsil is removed, the supar-tonsillar fossa made free, adhesions of the pillars prevented, this is all that is necessary. The lower 1-3 or 1-2 of the tonsil is left to perform its function, if it has one, and to preserve the acoustic properties of the pharynx, and whatever other function intended by nature. This lower portion being devoid of follicles and crypts, retains no secretions, and I have never known it to be primarily infected or to become diseased after the upper portion of the tonsil had been removed. Adenoid tissue should be thoroughly removed whenever it exists, care being taken not to use too much force with curette or forceps.

CONCLUSION.

When tonsillectomy is necessary, as it sometimes is, it must be made clear to the patient, or to the parents and friends, that it ranks with the major surgical operations and should be done in a hospital, with the same careful technique that any other major surgical operation is done.

Since the presence of diseased tonsils and adenoids in children is one of the greatest drawbacks to mental and physical development and a menace to health, and since so many serious complications and sequelae are being reported as the result of the radical operation of tonsillectomy, this word of caution does not seem out of place, because of the danger of bringing into disrepute one of the most important operations in surgery. As I stated at the meeting of the Mississippi Valley Association at Nashville, November, 1903, in the South this operation is one of the most unappreciated, underestimated and underpaid, of all surgical operations. This condition is largely due to the fact of the teachings and practices of years ago.

J. A. STUCKY.

Glaucoma.—Bjerrum presents evidence to sustain the assumption that glaucoma is not exclusively merely exaggerated intra-ocular pressure but that an irritative process is involved besides. This irritation seems to affect essentially the ciliary body. Excessive secretion follows, and this hypersecretion is the cause of excessive intra-ocular pressure. The primary irritation is probably of a toxic nature. He cites some typical cases to show this connection and the lesions encountered.

Generally speaking, functional kidney tests are of largest value in surgical diseases of this organ, although in chronic interstitial nephritis they have been shown to demonstrate the activity of urinary function.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form facts about the composition, quality and value of medicines. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A. Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and the Chemical Laboratory.*

RELIABLE MEDICINES.

Articles found eligible by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." **Crurin Purum** is quinin-bismuth sulphocyanate. It is an insoluble, inodorous powder. Used topically as an antiseptic. Mixed with an equal weight of starch, it is sold as Crurin Dusting Powder and is claimed to be of value as an application to leg ulcers. Kalle & Co., Inc., New York.—(J. A. M. A., Dec. 2, 1911, p. 1838).

Ciose is a water soluble beef protein containing 83 to 85 per cent. actual protein. Ciose is designed to augment the protein of any desired diet. Fairchild Bros., & Foster, New York.—(J. A. M. A., Dec. 2, 1911, p. 1838).

Enemose is a liquid containing nitrogenous substances from beef and wheat, carbohydrates from wheat and phosphate in a nonecquable, diffusible and assimilable form. It is designed for colonic alimentation. Fairchild Bros., & Foster, New York.—(J. A. M. A., Dec. 23, 1911, p. 2083).

Digalen Tablets contain 1-2 cc. (8 minims) digalen each. Digalen is described in "N. N. R., 1911." Hoffmann-LaRoche Chemical Works, New York.—(J. A. M. A., Dec. 23, 1911, p. 2083).

REFORM IN MEDICINE.

Sulphume, a nostrum sold by the Sulphume Company, Boston, Mass., is, according to a report of the A. M. A. Chemical Laboratory, a solution of calcium sulphid such as is obtained when sulphur, lime and water are boiled together. The solution is a rich golden yellow and has the disgusting odor of hydrogen sulphid. Its favorable reception as a "patent medicine" appears to depend on the old idea that anything that is nasty in taste or odor must be "powerfully good medicine."—(J. A. M. A., Dec. 2, 1911, p. 1853).

Tiz, exploited by Walter Luther Dodge & Co., Chicago, was analyzed by the A. M. A. Chemical Laboratory and found to consist of tablets which contain as essential constituents, alum, tannic

acid and salicylic acid. The tablets, dissolved in water, are said to "be good for sore feet." The usual exaggerated and unwarranted claims are made for this well-known astringent combination of doubtful value.—(J. A. M. A., Dec. 2, 1911, p. 1853).

Important Drugs. A committee of the Council on Pharmacy and Chemistry reports in regard to the compilation of a list of the more important and useful drugs. With a view of making materia medica instruction more efficient it is proposed that teachers and examiners limit their instruction to the more useful drugs.—(J. A. M. A., Dec. 9, 1911, p. 1930).

C. H. Carson, Quack. Some sworn testimony regarding the professional and educational qualifications of this quack are furnished.—(J. A. M. A., Dec. 9, 1911, p. 1930).

Medical Journals and the Great American Fraud. Leading members of the profession are contributors to medical journals whose advertising pages are full of pharmaceutical frauds and humbugs. Because of this support the profession is held responsible for the existence of proprietary frauds.—(J. A. M. A., Dec. 16, 1911, p. 2000).

The Alcohol Content of Elixirs. The needlessly high alcohol content of elixirs was discussed at a meeting of the Washington branch of the American Pharmaceutical Association. The branch regards with disfavor the continuance, in the National Formulary, of preparations that can be used as tipples.—(J. A. M. A., Dec. 16, 1911, p. 2013).

The DeBarthe Treatment for Rheumatism. This appears to be a side issue of the Neal Institute which exploits a "three day liquor cure." DeBarthe is not a physician. Still he appears to practice medicine and even to occasionally sign death certificates.—(J. A. M. A., Dec. 16, 1911, p. 2014).

Roentography with Kidney Calculi.—Areelin states that instantaneous exposures are liable to show up the stones much better than longer ones unless the kidney is completely immobilized. He insists further that the roentographer should always be present at the operation so that he can identify the stones by their shadows and see that none is overlooked. Areelin gives twenty-six different views of kidney stones to show the various sources of error.

Urine Reaction in Breast-Fed Infants.—Engle and Turnau state that a black precipitate forms in the urine of breast-fed infants when 15 or 20 drops of a 2 per cent. solution of silver nitrate are added to 5 c. c. of the urine. The discoloration reaches its height in ten minutes or still earlier if the fluid is heated. There is no black discoloration with urine from bottle-fed infants.

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

TRUTHS ABOUT THE OPTOMETRY BILL.

This bill grants to opticians (so-called "optometrists") the right to adjust lenses to people's eyes in need thereof, and denies them the right to use drugs. *Without the use of drugs, in certain cases, even the most competent physicians cannot properly adjust lenses to the eyes, especially in children and people under 35 years, and great harm can be produced by attempting such practice without the use of drugs.*

This bill is an invasion of the Practice of Medicine in one of its most important branches, and confers privileges on certain people untrained in medicine which in accordance with the wording of the act they are utterly incompetent to exercise.

The knowledge of optics alone, however extensive, does not render a person competent to do the work this Bill would give opticians the right to do.

To examine the eyes and adjust lenses one should have a knowledge of anatomy and physiology at least, but this Bill provides only a knowledge of optics.

The many diseased conditions of the body which may influence the eyes and vision are not considered at all.

The eye is an integral portion of the body, and is subject not only to diseases peculiar to itself, but frequently participates in, and gives evidence of, affections of the cerebro-spinal, cardiovascular, respiratory, renal and digestive systems, as well as those of the genital organs, the liver, accessory organs of nutrition or ductless glands, accessory nasal sinuses, blood, etc.

The ability to discriminate between visual defects due to diseases and those due solely to optical errors, both of which often exist at the same time, requires more ability than a simple knowledge of lenses.

Anyone who is unacquainted with this relationship and its effects evidently is unfitted to examine an eye for the purpose of correcting its defects, no matter whether this correction requires optical, surgical or medicinal therapeutics. He who is medically untrained is liable to fail to recognize, on the one hand, for example, glaucoma, or on the other, an albuminuric retinitis. In the first instance he endangers the patient's eyesight, in the second his life.

It is a most vicious type of special legislation in that it permits an Examining Board of five opticians to discriminate between opticians who apply for certificates of exemption. The recommendation of this Board is necessary before these certificates can be granted and this Board can limit its recom-

mendation to a chosen few, forming an optical trust.

It is the province of the optician to manufacture prescribed lenses and to attend to their mounting and suitable mechanical adjustment. It is not the province of the optician, nor that of any other person unprepared by medical education, to attempt to recognize diseases of or to prescribe lenses for, the human eye.

It therefore follows that a proper understanding of ocular therapeutics and the adaption of lenses for ocular disorders requires the skill of one who is medically trained in the best sense of that term.

Just as soon as refracting opticians receive state recognition by the passage of an Optometry Bill, they immediately assume and advertise equally with members of the medical profession, whereas they are not medically trained and the public is correspondingly deceived. This fact is well evidenced in an optician's circular at hand from which the following is quoted: "We are to-day approved and accepted as STANDARDS by special optometry laws in twenty-four States which now recognize the practice of optometry equally with that of medicine."

PRESIDENT'S ADDRESS

"UNITED WE STAND, DIVIDED WE FALL."*

By J. G. CARPENTER, Stanford.

Mr. President, Members of the Kentucky Medical Association, Ladies and Gentlemen, Loyal Kentuckians, American Patriots, Candidates for the Kingdom of Heaven, Welcome! Welcome! Welcome!

We are in "Our old Kentucky Home,"
The light shines across the hardwood floor,
more and more.

The hour of my execution has arrived. I have a few words to say. Let no man write my epitaph. As yet no man knows my motives, when I am dead, then, and not till then, shall my epitaph be written. I expect to live not less than two hundred years. "I shall not pass this way but once, therefore, if there is any good or kindness that I can do any one; let me do it now, let me not neglect or defer it; for I shall not pass this way again."

As President of the Kentucky State Medical Association, I wish to thank you for the great honor you conferred upon me at Lexington, September 28th, 1910. This day has been the happiest one of my professional life. While we need quantitative membership

*Delivered at Paducah, October 24, 1911, 7:30 p. m.

in every county medical society, it is after all, quality and skillful scientific attainments that count most for good to the profession and humanity. The medical profession overcrowded Chicago, February 27th. Dr. Alexander Hugh Ferguson, President of the Chicago Medical Society in an address to members of the Association of American Medical Colleges, said, "The medical profession is overcrowded—it is 'not overcrowded by the 'survival of the fittest' but by the 'survival of the unfit.'" Dr. J. N. McCormack in an address at Savannah, Ga., to the medical profession enunciated these golden truths, viz.: "We want a school for the doctors; doctors should study or quit the practice." Poverty in the medical profession is more dangerous than tuberculosis. There is not a busy doctor in this room to-night that does not pass the life or death sentence on someone at least once a week; many people too poor to have their lives saved under the present conditions. Not enough doctors for the proper treatment—a large part of the doctors of this country should go to studying or quit practice—the country would be better off if 50 per cent. of the physicians in it did go out of business. Every large town and every county should have a weekly post graduate course by the doctors and for the doctors.

A community which kept its doctors in poverty will have a large portion of its people die prematurely.

We want better organization of the physicians of the country; through their local organizations; that the advantage of cooperative study may be obtained; that the lot of the doctors may be made better; that better laws may be enacted; better sanitary conditions maintained; the science of medicine faster advanced and the mission of the physician as he sees it, better fulfilled.

Our conception of the physician is that he should be a leader in the community; the cleanest man in it; clean in speech; clean in his morals; a leader of opinion and the best cultured. The time is at hand, he maintains, when the doctors are to have the leading part in the destiny of the country.

The early legislation in the United States was placed in the hands of lawyers as a rule, because the problems were of a nature which could best be met by men of that profession.

Now, the problems are social and moral and psychological and a different class of men should be sent to the legislature—in this the doctors and teachers must take a hand by impressing on their legislators, the worth of the health measures before them and helping to get men into the legislature who will give proper consideration to these measures.

The organization of a weekly or bi-monthly post graduate course in every town and coun-

ty should be done by the local physicians; every medical society meeting is a post graduate course, this is a golden opportunity of the practitioner to gain knowledge from and impart knowledge to others.

Most of the great discoveries in medicine and surgery have been wrought by the country doctors in Kentucky, Virginia, Tennessee and the South. They achieved in the past; why not we achieve in the present and future? If we all can not hitch our wagons to the stars, let us get in and ride while others do the hitching.

Our fees are too low, few doctors are able financially to buy necessary books, journals, instruments and take post graduate courses in the hospitals of the larger cities and equip their offices as the modern up-to-date skillful practitioner should do.

I say unto you, Sampson! Sampson, awake! awake! the Philistines be upon thee! Do better and more skillful service, save more lives, cure and relieve more patients, charge more for your services and get better pay; remember *now* while you are *young*—prepare for a *rainy* day; for to you the *time may come* when, *you may be old* and in the *way*. Most doctors die poor at the end of a useful and well spent life and as they stand on the mountain top of life, weak with infirmity and old age and poverty their professional sun about to set, and hear the sad, sad, wail and echo over the hill to the poor house.

We should and must have a home for the old doctors, properly endowed and sustained, that we may in the evening of our lives, have rest, support, comfort and solace before we ship for the other shore of God's eternal home.

Oh! my brother, dear, be skillful and useful in the art and science of Hypocrites—learn early how to cut the Gordian knots of professional life and cut as often as it is necessary; remember that a long incision is better than a short one. The miser's pockets needs drainage.

A famous General was asked how he maintained a strategic point during the Civil War? His answer was, "I got there first with the most soldiers and held it." "The early bird catches the worm," but it is hard on the worm—the wide awake, studious, meritorious doctor, skilled and up-to-date, gets the best clientele and the best pay and always reaches the goal—success—sooner or later. If he be an ethical medical society man and takes post graduate courses, he always stays in the van of his profession and will be found in the upper story of his calling, and not crowded by the "mediocres," "the longest poles knock the persimmons," the victory is to the mighty, the swift and the valient in life's battle.

Dr. Alfred L. Loomes, Professor of Prac-

tice in the University of New York City Medical Department, started life a poor boy, educated himself and took the profession of medicine for his life work, and made a National reputation as a pathologist, diagnostician and practitioner and teacher. He was asked how he succeeded so well, he said, "I worked long and late, studied hard, trimmed the mid-night lamp, always did my best and climbed over the shoulders of the poor into the pockets of the rich." Died worth \$1,000,000. Sir Andrew Clark, the great and successful practitioner of London, England, started life a poor boy, was always studious, and did his best—won every position and prize that he competed for; said, "I worked twelve years for bread and butter, twelve years for reputation, and twelve years for fortune. He died famous, his estate was worth (\$5,000,000) five million dollars.

Therefore, let us be up and doing, with a heart for every fate, still achieving, still pursuing, learn to labor and to wait." May it be said of each one of us, in the language of Caesar, "I came, I saw, I conquered."

Every doctor in the Commonwealth of Kentucky must demand of the legislators and senators and Governor, a State Tuberculosis Hospital. We must also demand of our county judges, magistrates, county attorneys, and tax-payers a County Tuberculosis Sanatorium and Hospital in every county seat and in Kentucky. Let us present ourselves living sacrifices true and acceptable to the dear people and teach the great work and problems which daily confront us, for the betterment of the profession and humanity.

We long to see the Department of Public Health established at Washington, D. C., and have a skillful, meritorious physician for the Secretary and Cabinet Health Officer, presiding over this department and the Army, Navy, State and Interstate Health Boards and bureaus all consolidated into one National Board of Health; each bureau continuing to perform its proper functions without conflicting with the others. We must work and co-operate to have all these county, state and National institutions established at an early date, properly endowed, equipped to do the greatest good to the greatest number of suffering humanity; of the people, by the people, for the people. Live or die, sink or swim, survive or perish, I for one, will devote the remaining days of my life working to establish these great public institutions.

It took a long time to establish the Agricultural Department (U. S. A.) and it now spends \$14,000,000 or \$15,000,000, a year in preventing and arresting diseases in animals; the horse, cow, sheep, pig, chickens and other poultry—in arresting and preventing diseases in vegetables, trees, plants; and nothing

is spent by the U. S. Government to arrest and prevent diseases in the wives, husbands, mothers, sons, daughters and fathers. Shame! Shame!

We congratulate the Legislature and Senate and the Governor of Kentucky upon the passage of the bill appropriating \$30,000, to further the interests and urgent demands and necessities of the Kentucky State Board of Health. The appropriation should have been not less than \$100,000. Illinois appropriates yearly \$150,000 for her State Board of Health, Pennsylvania donates \$250,000, New York State also appropriates \$250,000 to her State Board of Health.

We want a legislature and Governor of Kentucky that will vote \$100,000 for the State Board of Health; the same amount for a State Tuberculosis Hospital and adequate sum to equip and make this hospital the equal of any other state institution of its kind; yea it should be the best in the world.

Are not the lives and happiness, success and destiny of Kentuckians as good, dear and sacred as those of Illinois, Pennsylvania and New York states? Of course they are, and we should have and demand of the legislature and Governor the adequate and essential appropriation to meet the necessary demands due our people and the Kentucky State Board of Health.

We count ourselves most fortunate upon having a "bi-partisan" board of commissioners to conduct and manage and control eleemosynary and charity institutions of the State and that this charge was brought about by the Kentucky State Medical Association and doctors of Kentucky, and that the Kentucky State Medical Association nominates three of its competent and expert members for the Governor of Kentucky to appoint one or more or all of these as the case may demand for Superintendents of our asylums and we recommend the members for the State Board of Health and the Governor appoints them.

THE GOLDEN RULE.

We need more physicians in Kentucky to teach and live lives of Damon and Pythias; of David and Johnathan, to teach and practice the code of Ethics, the "Golden Rule". A physician must study right, think right, speak right, do right, and live right and die right. Away with commercialism, *avant!* "Get thee gone thou thief, thou demon!"

GRAFT IN THE MEDICAL PROFESSION.

Any surgeon, specialist or consultant who offers a take out commission for the practitioner is a thief and snogastor. Any practitioner who demands from the surgeon, specialist or consultant a commission or graft, is a thief and snogastor.

We cannot live a dual life; Dr. Jekyl and

Mr. Hyde have had their day, and are back numbers. I do not believe in gonorrheal religion; a syphilitic spirituality; nor a strictered professional life. When a man and a woman marry, each should be legally required to give a clean bill of health before entering into the sacred bonds of matrimony—they owe this to themselves, posterity, to humanity, and the Commonwealth of Kentucky.

Too many homes are blighted, innocent women infected; inoculated and made barren by a syphilitic or gonorrheal husband, and too many women in the past have had to submit to the life-saving abdominal and pelvic surgery. All shame and dishonor to their tainted husbands and physicians; who let these demons of society marry pure and innocent women before they are cured. It is appalling to realize how many babies are made blind from birth with gonorrheal ophthalmia—due to the infected and contaminated husband and father. We believe a syphilitic or gonorrheal person is a criminal and more dangerous to society, his family, his country and business than tuberculosis, whooping cough, mumps, diphtheria, smallpox, and exanthemata, and these criminals should be isolated, quarantined, and confined and wear the scarlet emblem of infection, contagion and danger until cured and restored to society.

The medical profession can and should be a Gibraltar of strength and power, influence, unity, friendship, brotherly love, and protection in the Medical Defense League. We have an harbor of safety from the storms of professional life; black-mailing; illegal persecutions, and malpractice. The Kentucky State Medical Association did a most righteous act when the annual dues were raised to \$2.50 for each member, and more than 2,600 physicians admitted into the Medical "Defense League."

You know not the hour when some unscrupulous, ungrateful patient, with the help of some dirty, and infamous blatherskite in the profession, aided by one or more hungry, wolfish, and disreputable lawyers, will bring a damage suit for malpractice or try a black-mailing scheme, to rob you of your hard-earned money. *Now, is the day of salvation, get into the life boats,* the County Medical Society and the Kentucky State Medical Association and be saved right now, while it is called to-day.

BLATHER AND BLATHERSKITE.

Aesculapius had a brother of whom he tried to make a physician. As a physician Blather was a failure, as a Blatherskite he was a success. He was not studious, but lazy, meddlesome, garrulous, intemperate, selfish, envious, jealous, unscientific, unskillful, ambiguous, given to duplicity—a saint on Sun-

day, a sinner the rest of the week and when away from home, he demanded a commission from the surgeon consultant or specialist, never attended the medical societies, or took post graduate courses—was the instigator of malpractice suits, consorted with malefactors. Aesculapius became so disgusted with Blather, he named him a Blatherskite and Senolagoster and had him expelled from the profession.

Is there not something wrong with the daily professional lives, habits, heredity, characters, and environment of many physicians? We should all practice the "Golden Rule" day by day, then we would have no need of the "Code of Ethics," except as a signboard or morning and evening star of our professional lives.

Let the profession rejoice that four medical colleges in Kentucky have passed away and that in their place we have one; the Louisville University, Medical Department—we should work zealously to make this institution the best and Louisville should be one of the great medical centers of the world. Yet in the future, we look for one more medical college. The Medical Department of the Kentucky State University, with large State appropriations from time to time; properly equipped, will be the equal of any at home or abroad. We have the right to expect great things from these institutions in the future, for the country doctors "blazed the way" about a hundred years ago. Let us pause and behold their works and achievements: Dr. Walter Brashear, who immortalized himself by doing the first successful amputation at the hip joint in America and perchance the first in the world. This operation was performed on a seventeen year old mulatto boy living in Bardstown, Nelson county, Kentucky, August 1806; the boy living many years subsequently. Dr. Brashear practiced the circular method securing the blood vessels, then making an incision over the major trochanter and bringing the head of the bone through this opening. Dr. Brashear moved to Lexington in 1813, attained distinction in his profession, remained there nine years; in 1822 he moved to St. Mary's Parish, Louisiana, here seeking his fortune as a planter and merchant—both proved financial failures and engaging some in politics he abandoned his profession, only rendering service occasionally to his neighbors, and then gratis. He represented Louisiana in the United States Senate, and was a man of great professional and personal popularity. The country doctor who brought the greatest fame to the Country, Kentucky and the World, was Dr. Ephraim McDowell, of Danville, Boyle county, Ky. "The back-woods of America" in 1809. He removed successfully an ovarian tumor weigh-

ing 22 1-3 pounds, the patient was Mrs. Crawford, of Green county, Ky., forty-seven years old. She lived thirty years afterwards. Thirteen ovariectomies, five deaths eight recoveries. Dr. McDowell's office and residence still stands in Danville, Kentucky, and is used for a negro tenement house. All shame to the profession, the citizens, and tax-payers of Danville, Boyle county, and Kentucky. It should be purchased by the tax-payers or some rich man and made the Kentucky Academy of Medicine and Surgery under the auspices and control of the Boyle County Medical Society and Central Kentucky Medical Society. Every Kentucky physician should visit Danville and McDowell's monument, erected by the Kentucky State Medical Society in 1878. "Honor to whom honor is due."

Dr. Charles McCreary, of Scotch-Irish descent, the 7th son of Robert McCreary, born in Clark county, Kentucky, June 13th, 1785, was a great uncle of Ex-Senator James B. McCreary, the latter to be our next "Model" Governor of Kentucky.

Dr. Charles McCreary settled in Hartford, Ohio county, Kentucky, did a large practice in this and adjoining counties, delivered lectures regularly in his home to his own students as well as students of others. His chief operation, the one that makes his fame enduring, was extirpation of the entire collar bone in 1811; the first record made. Case reported in full by Dr. Johnson, in January, 1850, Number New Orleans Medical and Surgical Journal. No doubt the patient had tubercular osteitis or osteomyelitis. The operation was done on a young man, was a decided success, the patient made a perfect recovery, with perfect use of the arm, and living past the middle life; doubtless had a reformation of the clavicle, as he had perfect use of the arm. At Hartford, Ohio county, Kentucky, Dr. Chas. McCreary's grave is handsomely cared for by his grandchildren and he need not have uttered the prayer "Lord keep my memory green."

Dr. Benjamin Dudley, the greatest lithotomist of the nineteenth century, organizer of the medical department of Transylvania University, its master spirit and its professor of anatomy and surgery. He was in 1850 the founder of the "Kentucky School of Medicine" and remained with it until 1857 when he was sixty-five years old—he removed to his farm to pass the evening of his life. He did general surgery; trephining especially, and successfully for traumatic epilepsy; successfully tied the carotid for intra-cranial aneurysm—but Dr. Dudley's greatest success and chief field of labor was the bladder. He did 225 lateral lithotomies for vesical calculus with the loss of but three patients; not hav-

ing a death in his first hundred cases. He prepared his patients by rest in bed; free purgation with Crab Orchard salts and calomel—dieted freely—fed his patients on milk and mush, corn bread and buttermilk. He was a clean surgeon, used much warm, hot, and cold water, the latter from his cistern, and resorted to the free use of the soft or hard lye soap made from ash hopper lye in that day—the ashes obtained from burning the purest and best virgin forest timber. An Englishman alluding to Dr. Dudley is said to have remarked "That it has been reserved for a back-woods man in America to teach how to prepare the patient for a capitol operation." No one ever did so much with the roller bandage, relying upon it even in fractures of which he was emphatically master. Dr. Dudley was born in 1775 in Virginia, died in Lexington, January 20th, 1870.

Dr. Allen Goldsmith, who in Lincoln county, Kentucky, in 1829 performed for the first time in the United States lithotripsy; Dr. Jno. M. Briggs, of Bowling Green, who in 1830 for the first time in this country did hysterectomy—(Dr. Mosely carried out the principles of Esmarch's bloodless operation about 79 years ago) narrated by Dr. Ely McClellan, Philadelphia, Pa.

Dr. Benjamin G. Bowman, of Harrodsburg, Mercer county, Kentucky, to whom may be almost given the credit of having invented the hypodermic syringe, the use of such an instrument by him having been witnessed by Dr. C. S. Able, who in May, 1901, was still living.

Dr. Joseph Taylor Bradford, in Augusta, Kentucky, from 1840 to 1870, was the most successful operator of his day for ovariectomy, 90 per cent. of his cases during this early period of surgery recovering.

Dr. Henry C. Miller, the grandfather of Dr. Henry Goodman, Louisville, Kentucky, lived on Salt River, in Mercer county, Kentucky, in his early professional life; may be truly called the world's greatest obstetrician, having taught the profession how to control post partum hemorrhage by introducing the clean aseptic hand washed with lye soap, the best ever made, and made by the noble pioneer women of Kentucky, into the uterus and turn out clots and remove the placenta and produce pressure both with the hand inside and outside of the uterus; pressure hemostates—"pressure force."

Dr. John C. Craig, Stanford, Lincoln county, Kentucky, the great "County Surgeon," the student and preceptor of surgery for Dr. Samuel D. Gross, Sr., University of Louisville, Ky., Medical Department, was a great obstetrician, lithotomist, ovariectomist, herniotomist, a renowned brain surgeon, oculist and laryngotracheotomist. He made Central

Kentucky and himself illustrious by walking in the surgical footsteps of Gross, Dudley, Brashear, Miller and McDowell, and was twenty years ahead of the profession when he died.

Dr. Breynard, a Virginian, and a country doctor, the father of successful life-saving abdominal surgery for ectopic pregnancy.

The great Dr. Nichols Senn, of Chicago, was born and raised a poor country boy in Switzerland. At the age of 12 years he said to his mother, "I want to be a doctor and a big doctor when I get grown and make \$100 every day." All of which he did do. And his mother lived to an old age, and saw him achieve this great success.

Dr. Joseph Price, the illustrious abdominal and pelvic surgeon and his brother Mordecai, equally skilled but not so illustrious, were country boys raised in the mountains of Virginia, and received inspiration from country life and study.

Dr. Joseph Price has lessened the death rate in ectopic pregnancy from 98 per cent. to 1-30 of 1 per cent—hysterectomy from 95 per cent. to 1-20 of 1 per cent, and has operated on 115 cases of appendicitis consecutive cases, not selected for interval operations with a lowered death rate of 1-15 of one per cent. Dr. Price has performed 135 sections for appendicitis with ruptured appendix, pus in the abdomen with the loss of five patients' lives.

In Caesarian sections, the country doctor has always excelled, have had the smallest death rate; the city hospital surgeon has always had a high mortality. Dr. Joseph Price the country boy of Virginia, now of Philadelphia, has redeemed the city hospital surgeons high death rate by doing 7 Caesarian sections and saving seven mothers and five babes.

Kentucky country surgeons in the past have reached or made noble achievements, and will do so in the future. The late Dr. Nicholas Senn states it is with the aid of the trained nurse that the general practitioner will regain the surgical work that rightfully belongs to him; again, Dr. Senn states, if I had the choice of operating in a most elaborate operating theatre without a trained nurse and in the kitchen of a farmer's house with a trained nurse, "I would not be long in deciding in favor of the latter and I am confident that the patient would be benefited by the preference."

A splendid operating room with elaborate facilities for sepsis is desirable but not essential to obtain the best results, therefore, county doctors, *semper paratus*—demand your rights.

The medical profession is crowded, there are surplus of doctors, but there is much

room in the upper story. Climb higher! climb higher! onward and upward.

NOBLE PROFESSION—POOR BUSINESS.

Our profession is a noble calling but is a poor business, only one physician in ten engage in medicine as a life work, only one in fifty makes a success, one in five hundred becomes distinguished—makes a state and national reputation.

Each physician to make a decent living must have a population annually of twelve hundred clientele. Yet in Colorado, Arizona and California there is one doctor to every two hundred and fifty people. In other states the ratio is one doctor for every six hundred people.

The salary of the average preacher is six hundred dollars annually, that of the doctor is eight hundred. Out of this pitiful sum the doctor is expected to attend medical societies, take post graduate courses, buy best Journals and books, keep abreast in his profession, support and educate a family. It couldn't be done in the past, and the present, and it cannot be done in the future.

The future demands fewer doctors and more skillful doctors, and better paid doctors than ever before. Of necessity more and more doctors will retire or be retired by the people from incompetency.

Doctors who have made a financial success have done so in other lines of business, or have inherited or married wealth.

Either be a success or retire before you become a blatherskite or a senolagoster in the profession.

Carlyle says, "The race of life has become intense; the runners are treading upon each other's heels, woe to him who stops to tie his shoe strings." In every walk of life to-day it is a matter of the survival of the fittest. Roosevelt says, "The world wants men and women who can do things."

A law of worthy life is fundamentally the law of strife. It is only through labor and painful effort, by grim energy and resolute courage that we move to better things. We all have a task to perform, a goal to reach. Russell states, "No man can be happy without being industrious." We have all set sail on the stormy sea of life, full of hope and devotion, guided by the Elder Brother, The Great Physician. May the prayer of the Briton sailor, when he puts out to sea, be ours, "Keep me, my God—thy ocean is so great and my boat so small."

Benjamin Franklin said, "It is more difficult for a man in want to act honestly, than it is for an empty sack to stand upright;" David said, "Man is as prone to evil as the sparks are to fly upward." These two aphorisms may explain why the Code of Ethics—the Golden Rule—is often violated

by many in the profession. Always do your best for your patients, profession, family, and country; charge well for professional services, collect promptly, courteously and bravely, pay debts promptly, make good paying investments; carry enough life insurance in old line insurance companies; provide for self, family, sickness, a rainy day, and old age. Be your own administrator while you live for when you shall have passed away, your family will be robbed of many an honest dollar you earned and have charged on the ledger.

It is surprising how many people will try to disprove the medical account after the physician, who rendered the services is dead. Collect to-day, to-morrow, and the day after to-morrow.

Every physician should be an example in his own community for thinking right, speaking right, and acting right, and he should be the builder of his own reputation and fortune. It is a great misfortune to most doctors to have much wealth during their student days and the first five or ten years of professional life. Nothing develops a young professional man like judicious poverty and hard, earnest, meritorious labor. Money stunts, pauperizes, paralyzes and produces indolence, intemperance, immorality, and many other vices. Benjamin Franklin states, "Nothing is so likely to make a man's fortune as virtue." He urges us to make money, because, if we are prosperous people will respect us. He says, "Now that I have a sheep, and a cow, everybody bids me good-morning."

No doctor can afford to be slothful, for the sloth like rust, consumes faster than labor wears. Franklin also says, "He that is slothful in his work is brother to him that is a great waster." A doctor who collects promptly may make some enemies, but, should be admired and praised, for the enemies he makes rather than cut bills into halves to make it appear he is a cheap doctor and buy future favors with patients. Your superiors will never envy or hate you or be jealous of you; but your inferiors will. It is the ignorant, incompetent, and inferior physicians who deals in envy, hate, jealousy, backbiting, and slander, and the aid of the disreputable lawyer in bringing malpractice suits against the worthy physician. Let us be studious, meritorious, gentlemen, Christians, the highest type of American citizens, then we will practice the Golden Rule, think right, speak right, and do right, live and die right.

Consultations are first, for the benefit of the patient, second, the family, third, the friends of the patient, fourth, for the physician, fifth, to protect the attending physician and share the responsibility. Holy writ and law of our State affirm that from the mouths of two

witnesses every word shall be established.

In the past, many physicians have been too small, ignorant, and selfish to call for a consultation or allow the patient or family the privilege of a consultation. Grant right and liberty to every man, woman, and child.

According to the constitution of Kentucky and the United States, every person, well or sick, has a "bill of rights" that should be respected by every physician. The essayist has determined, long ago, to respect these courtesies, and rights, and liberties of patients, family and colleagues and demand the same for himself and every gentleman and American citizen will do likewise. If the professional brother offend thee, forgive him, spitefully use you, bless him, curse you, pray for him, has no money, loan him some, has no practice, help him to get practice, hungry feed him, naked, cloathe him, sick or in prison or distress, visit and comfort him! do unto him as you would be done by; not for the glory of self, but, for the glory and good of the other fellow and the glory of God.

My brother lay down that professional handspike and get the beam out of your own eye before you prize the mote out of your brother's eye. Get right with God and yourself, then you will get right and keep right with your brother physician.

The sun, moon, and stars each have a glory—yet, and the firmament thereof all declare the glory of God and so should the doctors.

As the stars, the sun, and moon differ one from the other in size, light, form, beauty, brilliancy, and grandeur; so will doctors differ in their Christianity, industry, erudition, skill, wisdom, professional achievements, diplomacy and financial success.

Two phases include the entire domain, viz: First, seek ye the Kingdom of Heaven and God's righteousness, and these things shall be added unto you; the latter phrase, is, Hear the conclusion of the whole matter, "Fear God and keep his commandments."

If we desire heaven, we must seek it here—if we love heaven, we must love it now; Heaven means holiness. Heaven means principal. Heaven means to be one with God.

Simplified Tuberculin Skin Test.—Barabasechi rubs the region with alcohol until the skin is red. Then in the center of this area he spreads a thin layer of tuberculin without rubbing it in and lets it dry. In 114 cases in which he has applied this test there never was any general reaction, while the local reaction seemed to be a reliable index of an active tuberculous process even when the process was in its incipency. He gives the details of eighty-nine cases to show the reliability of the test. His previous communication was summarized in The Journal, Sept. 10, 1910, page 977.

MEETING COUNTY SOCIETY SECRETARIES**ASSOCIATION OF COUNTY SECRETARIES AND ASSOCIATE EDITORS.***

OCTOBER 23, 1911.

After the adjournment of the House of Delegates of the Kentucky State Medical Association at 4 p.m., the Association of Secretaries of County Societies was called to order by Hugh D. Rodman, Vice President, in the absence of the President, D. O. Hancock, of Henderson.

L. H. South, Bowling Green, presented her report as secretary.

The minutes of the previous meeting were read and approved.

T. A. Frazer, Marion, read a paper entitled "How to Assure a Program for Each Meeting of the County Society."

W. A. Poole, Henderson, read a paper entitled, "Special Meetings, Public Meetings, General Meetings, Proper Subjects for Discussion; Their Mission."

W. W. Anderson, Newport, read a paper on "How to Prepare a Program for the County Society for the Entire Year."

It was moved that all of the papers be read first and then discussed.

Motion seconded and carried.

D. O. Hancock, Henderson, read a paper entitled "What is the President of the County Medical Society Good For?"

W. W. Richmond, Clinton, read a paper entitled "What Would Happen if Every County Medical Society Were a Good One?"

**WHAT CAN WE DO TO MAKE THE
COUNTY SOCIETY MORE EFFECT-
IVE AS THE INTEGRAL PART
OF OUR STATE AND NA-
TIONAL ORGANIZA-
TIONS.***

By T. ATCHISON FRAZER, Marion.

Since the organization of the London Medical Society in 1775, there have been divers plans promoted for the more effective medical society work.

This subject has baffled the efforts of many of our best medical men; but, as time goes by, and as medical science approaches nearer to the exact, and the demands upon the profession become more exacting, the more we feel the necessity of a more compact organization and the crying need of physicians to come in closer contact with each other in the study and practice of medicine.

The physician who is isolated, who practices medicine to himself, we might say, must of necessity, be a man of very broad mind and character if he does not get into "ruts" and

keep in them, if he does not grow smaller instead of larger. The only feasible way to prevent this deplorable condition, is through the well organized Medical Society.

The County Society is the bulwark of the general practitioner. The scheme of medical organization in this country is the greatest professional organization in the world. The greatest good to the greatest number of people, is the primary object of medical organization. There are no selfish aims; there is no narrow bigotry nor molly-coddling in medical organizations, notwithstanding the rantings of the various "sects" and "League of Medical Freedom."

Physicians are like silver dollars—the more they are rubbed together the brighter they get. Therefore, the best place to rub them together is in the County Society.

Now comes the important question, "What can we do to make the county society more effective as the integral part of our State and National organizations? This subject being assigned to me, reminds me that "Old maids and bachelors" can give the best advice as how to rear children. It seems to me that I have made a dismal failure as secretary of our county society, and that some one, who has made a brilliant success of society work would have best answered this question. My experience as secretary of several other organizations, has taught me that more responsibility rests upon the shoulders of the secretary than upon any other officer of any organization. The success of all organizations primarily is in the hands of the Secretary; he holds the reins that guide the chariot to success or failure; he opens the throttle that causes the engine to move, he closes the throttle that stops the motion of the engine.

The secretary of the county society should keep on friendly terms with every physician in his county, he should have no grievance against any one. He should stand ready to make any sacrifice to facilitate the work of the society; yet, he should be firm in what is just, deliberate in all his official acts; counsel his fellow physicians as to the wisdom of all acts pertaining to the work of the society. He should strive to make each member feel that he is a part of the organization, and that his co-operation is necessary to its success.

Doctors are usually good fellows, but jealousies often arise because they do not know each other. We should strive to bring the members in close touch with each other, in order that they may know each other better. We often dislike a certain doctor because we do not know him as we should. I think the post-graduate system of study, as outlined by Dr. Blackburn is the best plan of study for the county society; but, in small counties there are so few active workers that it is hard

*Read before the Association of County Secretaries, Paducah, 1911.

to carry out this plan of work. But I see no reason why it should not be a success in the larger counties.

A program should be prepared with great care, for each meeting, and the secretary should be prompt in sending it to the members. Sometimes we can get a man in the harness by asking him to read a paper, the subject of his own selection. Other times when a doctor is put on the program, he will refuse to attend the meeting as long as his name is on the program. So it takes a great deal of diplomacy to handle these subjects.

The subject of the collection of dues is a very important one, and the responsibility for this work rests entirely upon the secretary. Written notices should be sent to each physician but I find the better plan is to see the members personally when possible, and insist upon the importance of their paying their dues promptly.

We should insist that we get value received in our State Journal for all our membership costs us. We should try in every way possible to convince the profession that medical organization and society work are personal helps, and ultimately put dollars in our pockets.

If we can get a doctor to realize that there is something for him to do, and that no one else can do his work then he will generally get in the harness; this personal responsibility is absolutely necessary to a good society worker. The national organization with its integral parts is an organization that has for its chief purpose the uplift of humanity, the eradication of preventable diseases, and the betterment of humanity. The Kentucky profession is the equal of any state in the Union and it should be the ambition of every Kentucky doctor to make it the best on earth.

SPECIAL MEETINGS, PUBLIC MEETINGS, OPEN MEETINGS, JOINT MEETINGS; WHAT ARE PROPER SUBJECTS FOR DISCUSSION AT THEM AND WHAT THEIR OFFICE.*

By W. A. POOLE, Henderson.

We will attempt to discuss these four meetings in the order named.

Special meetings should be held to discuss any subject that concerns the profession which cannot be put off until the regular business meeting or which could not be properly discussed in the short time allowed at our business meetings.

Much has been written about the division of fees and every county society might find it profitable to make this a subject of a special meeting and settle the question finally.

A movement started in Iowa last year, to establish business bureaus for county societies with an attorney who would make a systematic attempt to collect old bills, might be discussed.

In cases of epidemics special meetings to discuss conditions may be found helpful to the members of the profession.

Special meetings from time to time to discuss general subjects, such as, to request local papers not to run patent medicine ads., etc., in the news columns.

When we can arrange to have prominent men to read papers on special subjects it often stimulates our members to renewed efforts to accomplish something.

The purpose of special meetings is to benefit the members themselves and bring them closer together in a social and scientific way.

PUBLIC MEETINGS.

We may first inquire into the value of publicity in general and its adaptation to the prophylaxis of diseases.

Recent developments have demonstrated its remarkable value in the correction of certain public, political, and commercial evils. The essential conditions for the existence of these evils is the ignorance of the public.

It may be claimed that the public is indifferent even averse to this enlightenment. Less than ten years ago the public was indifferent to the dangers of tuberculosis, but it was only necessary to correct the ignorance, the cause of this indifference and public apathy was at once transformed into an active interest.

Public interest in the drug question has been aroused by the warfare against the nostrum evil. This crusade was started by public health defense leagues organized by the public and not the medical profession. It was the enlightenment of the public through Collier's and other lay magazines that has caused these people to be ready to assist in checking the great American fraud, not only as it applies to patent medicine, but to quackery and fraud in general.

The problem of a pure milk supply always interests the public.

Under existing conditions there is undoubtedly gross neglect of sanitary precautions and cleanliness.

The abolition of the public drinking cup is a sanitary measure of real importance that has been adopted rather widely within a short time and the public should be educated to the danger of common drinking cups.

The attitude of the general public is known to be strongly antagonistic to the establishment of prohibitory restrictions that insure

*Read before the Association of County Secretaries, Paducah, 1911.

protection against certain communicable diseases. The ignorance of the public concerning the cause and development of disease, and the laws of hygiene and sanitary science is the cause. Once the public is sufficiently aroused to comprehend and appreciate its own interest in this question little will be required to assist us in the prosecution of this work.

The public should know more of our code of ethics as it would place the profession in a better light before the public and often prevent confusion and ill-feelings between the members.

The Russell Sage Foundation is offering us an affective example of the good that may come of educating the public in the care and feeding of infants.

The fact that blindness is often preventable makes it imperative that we discuss this subject in our public meetings.

The number of deformed children we see on the streets should be an incentive to cause us to instruct parents how to prevent many of these conditions, and to correct others.

OPEN MEETINGS.

In the fight against preventable diseases there has come a time in the history of each one which has been systematically attacked, and it seems that the prevention of cancer must be regarded as a practical problem ripe for solution.

Lantern slides illustrating the anatomy and life history of the hookworm disease have been prepared by the hygienic laboratory of the U. S. Public Health and Marine Hospital Service to be loaned to medical societies.

Pellagra is another disease that is attracting the attention of the people and they should have a chance to get correct information concerning the disease from our open meetings.

Likewise infantile paralysis should be discussed at open meetings.

It is the united sentiment of modern students, that as a measure of public safety if for no other reason, the public should be taught certain facts regarding venereal diseases. It is not confined to the torrid of prostitution where it originates. It collects about the very sources of human existence, it pollutes the fountain of life, it befalls the social function of maternity, its defilement clings to the innocent child ushered into the world. If the medical profession should share with the people the knowledge it possesses of the frequency of such infections and their terrible consequences to the health and lives of innocent women and children, an awakened public sentiment and an aroused public conscience would no longer tolerate such social infamies.

JOINT MEETINGS.

Dr. W. H. Snyder, Toledo, Ohio, says: "If the profession had not lived so much within itself, but rather had spread its ideals and discoveries before the public, anti-vivisection, Christian science, Osteopathy, Optometry, and mental healing could not have gained ground except with those who are mentally incompetent. Well known monthly and weekly magazines have during the past two years probably done more to educate people along correct lines of medical thought than any other agency. They reach a larger number of people who must see in cold print what is intended for them to know." We believe this would be even more true of the local papers if the county societies would meet with the members of the press and let them know what we are trying to accomplish.

The county societies in Missouri, last year began active co-operation with the teachers and organized teachers' reading circles, that meet from one to four times a month, and which adopt every year a book for study.

The possibilities of close co-operation between the county medical society and the county teachers organization are practically unlimited.

Members of Boards of Education, Superintendents, principals and teachers of schools both public and private, should be well informed as to the nature of venereal diseases and the dangers which attend them and their interest and co-operation secured in efforts to check their ravages.

Medical inspection of schools should be discussed and a campaign of public education started. It is evident that school inspection cannot be a success unless the parent is instructed and interested in the nature and objects of medical inspection. They should be taught in a general way the significance of the defects and diseases to which their attention has been called. This interest was aroused in Boston in 1905 by organizing parent-teacher associations, the parents were instructed concerning the care of their children by lectures on the physical development of the child.

The venereal diseases, their cause, prevention and cure should be discussed before the Y. M. C. A.

Effective work can be done through church organizations, young people's Christian endeavor societies, mother's meetings and the Salvation Army to bring about any reform.

Joint meetings should be held with the clergy to discuss health conditions and other things of importance to the public, for instance: In the September 3, 1910, number of the *Journal A. M. A.*, attention was called to the fact that "Vitae-Ore" became popular by advertising in the religious papers. Such

conditions could be remedied after discussing them with the clergy.

Counter prescribing by the druggist cannot be stopped at present but by frequent joint meetings with the druggist we may have such understandings of good intentions as to curtail the practice. The relations of the doctor to the druggist and druggist to the doctor should be discussed and U. S. P. and N. F. preparations reviewed.

Medical expert testimony is a puzzling problem for physicians, lawyers and judges. Our state society has a permanent committee on this subject and we may soon have some valuable legislation but our county societies will benefit by discussing this subject with the county bar association.

A meeting should be held with the dentists to discuss relations the two professions bear each other.

Woman's clubs will help materially to bring about medical inspection of schools, the establishment of infant milk depots, securing nurses for the poor, etc.

Joint meetings should be held with anti-tuberculosis societies and all other societies for prevention or cure of disease or of interest to public health, and scientific advice given them about the conditions in which they are interested. The civic societies should have the co-operation of the medical society in many phases of its work especially regarding selections for public play grounds, baths, etc., and in questions like smoke, etc., and in all questions of public instruction.

It is especially in the matter of public instruction and enlightenment, that the medical profession as an organized body fails to meet its true responsibility.

WHAT IS THE PRESIDENT OF A COUNTY MEDICAL SOCIETY GOOD FOR.*

By D. O. HANCOCK, Henderson.

"In the school of Pythagoras it was a point of discipline that if among the probationers there were any who grew weary of studying to be useful, and returned to an idle life, they were to regard them as dead; and upon their departing, to perform their obsequies, and raise their tombs with inscriptions, to warn others of the like mortality, and quicken them to refine their souls above that wretched state."

We often observe a doctor useful as a member of the county medical society, serving efficiently on important committees, writing papers, and even wide-awake as secretary of his society, elect him president and it is time to perform Pythagorean rite. This is not as

it should be. The president of a medical society should be the real head of the organization. He should be elected to that honorable position because of his fitness for it. What he may have done in the past should be considered, only, as it is evidence of what may be expected of him in the future, but, in revised and enlarged edition.

I have attended a medical society where the president occupied the chair and performed in a perfunctory way, a mere "figure-head." The secretary was the "whole show." I have known a president to have very little to do with any of the planning of the work of the society. He would say, amen! if all went well; if not he would stay at home. But this is all in negative. What is the president good for? What are some of the things which he can do and which he should do?

Section 2, Chapter 3 of the Constitution and By-Laws reads: "The president shall be the real head of the profession in the county during the year, and it shall be his pride and ambition to leave it in better condition as regards both scientific attainment and harmony than at the beginning of his term of office."

The president, vice president, and secretary constitute the committee on program and scientific work. The president is named first and is chairman. It is his duty and it should be his pleasure as well to plan for getting essayists and other scientific work for each meeting. A good plan is to outline the work for the entire year and have this annual program printed in nice folder. If sufficient number of them are printed, the secretary can use them in one cent envelopes as convenient notice of each meeting, to be sent to the members about two days ahead. It is not sufficient to thus arrange a program for the year. Each meeting must be looked after and where a failure is imminent secure other talent. No meeting should fail for lack of essayists. This is the work and duty of the president. Often he shifts it to his secretary but it is wrong. The president should visit the membership often in their offices. Talk with them and keep in touch with every thing that is going. Knowing the pulse of the profession he will be able to do much in bringing up the work and securing harmony. He should remember that scripture, "He that repeateth a matter separateth very friends." Men have not learned to come in sharp competition and at all times keep perfectly composed. If a rash criticism is made he can often "Pour oil on" and prevent a rupture. The real secret of harmony in the profession is to be actively engaged in some good work. This is the day when we invite the public into our confidence and give them the "Secrets of our calling." To plan public meetings with other societies, teachers, ministers, druggists, law-

*Read before the County Secretaries' Association, Paducah

yers, and other public spirited citizens is a fruitful resource of a president of a medical society in keeping up interest and prompting harmony.

What is a president good for when he becomes ex-president? This is the saddest question of them all.

"Nothing in this world is so good as usefulness. It binds your fellow creatures to you, and you to them; it tends to improve your own character and give you a real importance in society, much beyond what any artificial station can bestow." The new ex-president is but a graduate in the school of usefulness to the county medical society. It is a sad waste of energy if his attitude to the society now becomes one of innocent desuetude. He should now know how, and the importance of being prompt and responsive to all the needs of the society. He should study the subjects announced and be ready and efficient in discussion. He should, himself, write papers more frequently than the others for he is now matured in judgment and experience. He should be wise in the councils of his society. There are many questions that present themselves which demand his ripe years. Questions of ethics, of harmony, of protection against damage suits; and worse than this, damaging attacks on the profession. Then, too, there is the progressive side. Preventive medicine is fast changing our attitude as public men. Treatment continues to approximate an exact basis. The county society is the unit of organization of state and national efforts to the betterment of conditions of human life. The county medical society is the post-graduate school of the medical profession. I say this advisedly, and without thought of being contradicted by any thinking doctor. Its president and ex-presidents have a duty which can not be neglected by them, or shifted to another with honour.

"Have I done anything for society? I have then done more for myself. Let that question and truth be always present to thy mind and work without cessation."

HOW TO PREPARE A PROGRAM FOR THE COUNTY SOCIETY FOR THE ENTIRE YEAR.*

By W. W. ANDERSON, Newport.

The subject assigned me seems to take for granted the desirability of such a program. Perhaps we are not all agreed on that point. Certainly some societies have not adopted the plan of long-advance programs, for we read in society reports that "Dr. X read an excellent paper on pneumonia and Dr. Z was assigned as essayist for next month and is to choose his own subject." It would appear that some societies do not believe in long prep-

aration or are so poor or so shiftless as to be reduced to the necessity of living from hand to mouth.

One month is entirely too short a time and one year is not too long in which to prepare to do one's subject and one's self justice before a scientific body.

The short-notice paper is usually a poor one that is hardly worth going to hear. Sometimes it is very good but so evidently copied wholesale as to lack all the zest and force of originality. Again it is an old paper read elsewhere before and resurrected for the occasion; but a good cook does not like to serve a warmed-over meal and good feeders do not like to eat it. Wherefore if a scientific feast is desired give the cook ample notice, good material and plenty of time.

The making of a program is governed by certain principles whether the time it covers be long or short.

It must meet the needs of the society by inviting consideration of such subjects as concern the members in their work.

It must be fitted to the ability of the members as a whole and as individuals, as speaker and as hearers.

It should contemplate dependence chiefly if not wholly upon the member for doing the work. No doubt a dry land duck would enjoy having water poured on him but to get the full benefit he must get in the swim and do his own paddling.

No ready-made program, no matter how successful elsewhere nor how highly recommended should be adopted. Dr. Blackburn's outlined course of post-graduate work is probably the most complete and systematic program in existence. Some county societies have prepared and published excellent programs. None of these should be adopted. They may very well be adapted. They may be used as a basis or as suggestive and so changed as to adopt them to the needs and the ability of the society.

The making of a program should not be left to the secretary alone. A one-man program is very liable to running in a rut. A broader program will be made by collaboration and it will also better win cooperation.

The program should seek to give every member a duty and a hearing but should not load itself with dead timber.

It is a good plan to send to each member a reply postal requesting an answer whether he will take part in the proposed program, his choice of subject or his willingness to accept any assigned and also suggestions as to subjects he would like discussed in the meetings.

These replies will furnish a list of subjects and essayists that can be relied upon fairly well. They will also show the lines of the thought that are predominant in the society.

*Read before the Association of County Secretaries.

and suggest other subjects needed for rounding out and completing the program.

For further subjects the committee may well have recourse to the list of current medical journals and other society programs to find suggestions.

In every society there are a few capable and willing workers who will take the trouble to prepare and supply a paper on any subject that is needed to fill out or properly balance a program.

The program should be printed and in the hands of every member before the beginning of the year in convenient form to be carried in the pocket or call book, where it will be a constant reminder and call to duty.

The order of business provided for the meeting should always allow opportunity for the presentation of clinical cases, specimens and case reports and this class of work, at once the most interesting and most instructive should be much encouraged.

When for any reason the essayist fails in his turn the stronger members, the officers and the program committee should be prepared with case reports or other good material to fill the gap.

After all it is much easier to make a good program for a year in advance than to make good with the program at each meeting. The best possible program will not work itself. It requires live, interested, working members held to it by capable officers.

WHAT WOULD HAPPEN IF EVERY COUNTY MEDICAL SOCIETY IN THE STATE WERE A GOOD ONE?*

By W. W. RICHMOND, Clinton.

The improved efficiency of the medical profession has as its object the health of the people. Any other than an unselfish motive would be unworthy of the time and expense of the meetings. The people are the beneficiaries of the work of good doctors; for it is by the doctors that they are taught the laws of health and the ways and means for the prevention of disease. Then the people are dependent on the skill of the doctors to aid them in the time of sickness. So, whatever adds to the efficiency of the doctor is of great importance to the people in giving more information to prevent disease and premature death. Therefore, a good county society would do this and would be of incalculable benefit to the people as a means of better health, less sickness and fewer deaths.

A good county society would increase and strengthen the social condition of the doctors

and in that way, dignify the profession. The careful preparation and public reading of scientific and practical papers, as well as their discussion, edify and improve the physician and lead to greater activity in the study of medicine. Thus, he would be helped in the larger realm of citizenship. His character is strengthened and he is better qualified for his professional duties. It also inculcates a greater desire for knowledge. Members soon realize that they aid each other in society work. So, a good county society would be a means by which a doctor could qualify himself for enlarged usefulness and it would enable him to rise to greater distinction and at the same time aid his brothers to do the same.

A good county society is an organization which should wield a great and beneficial good in a community. It would be a power for good in all that pertains to the medical profession and in all that tends to the welfare of the people. It would show the people that the doctors are progressive and doing their best along scientific lines to safeguard their health. It would prove that the medical profession is interested in something infinitely beyond a desire for personal gain. The good county society would broaden and strengthen the local profession and qualify it to teach the great questions in medicine which concern the people, in that good health and long life depend upon them. Through its influence a hearty co-operation of the people could be secured. A united effort of doctors with the co-operation would make it possible and easier to secure the passage of wholesome laws for the establishment of a proper system of sanitation and hygiene, and for the protection of the people from disease and premature death.

If there were a good county medical society in every county in Kentucky, it would help to make it possible to have better county and state officials who would conserve the best interests of the people in matters of health and hygiene. It would help to make it possible to have better county judges and better members of fiscal courts, men who would be free from prejudice and disaffection and who would have sense enough and judgment enough to consider the health and lives of their fellow beings. It would hasten the time when each county in the state could have an efficient health board, and a properly trained health officer employed on a salary sufficient to enable him to give his full time to the duties of his office.

The county society is a component part of the state association and therefore, is far-reaching in its influence and whatever it should accomplish by reason of its efficiency, would go to increase the power and influence of that body. Therefore, if there were a

*Read before the Association of County Secretaries, Paducah, 1911.

good county medical society in every county in the state, it would help to establish, maintain and control a system of sanitation and hygiene sufficient in every way to reach the source and cause of all contagious and infectious diseases and provide adequate means for protection against the same. Kentucky would not only be noted for her natural resources and rich products, but would be made more famous on account of her freedom from sickness and disease and the health and happiness of her people.

In conclusion, let me say there is no reason why there should not be a good county society in every county in the State, and with a little more zeal and a little more energy upon the part of the profession the feat can be easily performed.

DISCUSSION ON PAPERS PRESENTED.

J. G. Carpenter, Stanford: In regard to the medical society asking a man to manage the profession in his county, I would say, first of all, that man should be a leader; at the same time, he should be a politician and a humanitarian. It would be a good thing if he would step up to a brother practitioner whom he desires to join the society and say to him, "I am going to dinner with you." I have said to practitioners how much more they would be thought of if they only attended the meetings of their local and county medical society. I have not infrequently said to doctors, I am going home to dinner with you, and am going to stay all night. Doctors, as a rule, have wives of very fine education. I tell them my mission and how their husbands ought to belong to the local and county medical societies, and how much more useful they would be to their wives and children if they attended these meetings. Through the influence of the good wives we have induced many doctors to join local and county societies, a thing perhaps we could not have accomplished otherwise. When they join a medical society we open their eyes as to the possibilities of the great good they can do. Through them we can arrange to have social talks and talks from the pulpits. We tell the non-members and their wives what a rich harvest is to be reaped by being medical examiner for an insurance company. (Laughter). It is a great and important matter to educate the people. It can only be done gradually. There is one thing about free salvation, and that is, while people like to have it, they would rather have a free dinner, they will go and perhaps become members of the medical society if some doctor will foot the bill.

But some doctors do not always have the necessary money to pay for it. A great many doctors, if they were assured they were going to have a free dinner, they will go and perhaps become active members. If you can teach doctors banking, finance, how to make money, and how to save money, and that membership in the local and

county societies will make them rich, they will come. (Laughter). If you give doctors a free dinner, you will find them sleeping together, and when you get two doctors sleeping together, they are all right. (Laughter). They come to know each other better, and although each one may have heard unpleasant things that were said about him, they soon forget that, and like David and Jonathan they go down life together and realize it is a good thing to become members of the county medical society.

M. M. Moss, Franklin: I have been a member of our county society and our state medical association for many years. I have been a delegate several times. I have attended the meetings several times. I believe this is the first time that my voice has ever been heard in a discussion on any subject, although I have been a good listener all my life. I have been unfortunate in not having been president of our county medical society, but have been the secretary of our society ever since I have been in the county and have been practicing there. As secretary of the county medical society, I do not think I have missed a meeting except when I was sick or was away in attendance upon a medical society meeting somewhere else. I have always encouraged our county practitioners to join the county society. Personally, I attend not only the county societies, but State societies, and the National society. I make it a rule to attend these meetings, and while I am very busy sometimes, I do not consider myself too busy to attend a medical society meeting. In talking to some practitioners they will tell us that it is a great sacrifice for them to attend a meeting, but I have noticed that it is the busy doctors who can afford to go to these meetings. The men who are too busy to go to a local medical society meeting or to a county society meeting are generally the ones who have time to go anywhere. That is my opinion of them. But the man who attends his county, state tri-county society, or the national medical society, is usually a busy man between times.

Last week I went to Nashville and attended the Mississippi Valley Medical Association, spent three days there with great profit among my fellow practitioners. I found this meeting of great advantage to me. As secretary of my county society, I encouraged some of our members to go to this meeting, and, by the way, I was successful in getting five or six of them to go to Nashville as it was close by. They told me that it was the most profitable meeting they had ever attended. Whenever I feel inclined to go to a medical society meeting, it does not make any difference how busy I am, I simply put my work aside and go, and I nearly always attend the state society meeting, unless there is sickness in my family that keeps me away.

Vernon Blythe, Paducah: I have been secretary of the McCracken County Medical Society for two or three years. Perhaps it would be bet-

ter for me to say that I was the secretary of this society, but am not now. Three years ago, out of fifty-nine members of the medical profession in McCracken County, our enrollment did not amount to more than thirty-two or thirty-three, and under some trying difficulties we have succeeded at the present time in enrolling all but three of the doctors in McCracken county. If you will look over the statistics of the various counties of the State and the proportion of doctors in each county of the State, you will find that is a very favorable showing for any county in comparison with the other counties of the State. The secretaries of the county societies have a large burden to bear. They have to be peacemakers, and they have to do many things that inwardly they do not want to do. They have to perform a great many peace missions, but by constant vigilance and constant effort in keeping the members informed as to the various duties they have to discharge, by constantly giving them something to do, I find it is one of the best means of gathering strength in any organization. It is important to get every member busy. Make the members realize that they are a part of the organization, and that it is their duty to read a paper now and then and to discuss papers. When they take interest in these things the organization is materially strengthened. One of the hardest features that the secretary has to contend with is to get the various members to write and read papers. I found it was very difficult oftentimes to get the members who were willing to write papers, and the sundry excuses they made were sufficient almost to confound almost anyone; but it requires considerable patience to be the secretary of a county medical society. I appreciate the honor of having been secretary of the McCracken County Medical society, and I feel that my efforts and those of the President were not without avail. I am always thoroughly interested in the work of the county society, and I believe every doctor should make every effort he can to visit these organizations and keep in touch with them and produce harmony just as much as he can in all conditions and other walks of life.

Arthur T. McCormack, Bowling Green: The matter of securing editorial writers for the State Journal is one of great importance, as has been pointed out by Dr. South. Our difficulty, however, is not so much in securing men who are willing to have their names printed on the first page of the Journal. There is not the slightest difficulty about that. In fact, there is never a declination; but willingness on the part of a man to study a subject thoroughly and write a signed editorial on it is a different proposition. We want for our editorial department editorials on subjects that have been very thoroughly studied and digested by the writers, giving us the results. So far as the State Journal is concerned, I do not care so much for abstracts, because I think

the Journal of the American Medical Association occupies a larger field in this regard and undertakes to abstract all important articles which appear from time to time in the different weekly and monthly medical journals. There is no necessity for us occupying a field such as that which can be better covered and more ably handled by such a journal as the Journal of the American Medical Association. What we want, for instance, is for some one to take the subject of pellagra, thoroughly study the literature of that subject, and then write an editorial giving the readers of the State Journal the latest views in regard to it. Personally, I find there is no one who knows anything definite about it. I have read five or six volumes on the subject, but I have seen no paper that has presented anything original in regard to it. A great many articles have been written with reference to pellagra, but they do not seem to throw any additional light on the subject. If we could get some member of the profession to digest some subject thoroughly and write it up for the Journal, we would like to publish it as an editorial, and he need not be particular whether his name is at the top of it or not.

One remarkable thing which is typical of professional conditions, is that we have found it practically impossible to get articles on therapeutics and materia medica. For a long time I have written more letters in reference to these two departments than all of the other departments for the purpose of getting articles to be published in the Journal and have secured less results. For a while I was a little puzzled to find out the cause of that, but I think I have it solved now. There are not enough doctors that know enough about it to write on it. So many practitioners nowadays devote themselves to surgery, that there are comparatively few practitioners practicing medicine with a knowledge of what they are doing, particularly when it comes to the use and action of drugs. For instance, it is a difficult matter to get a man to write a paper on tincture of digitalis. Men like Dr. Ellis, who give medicine, know its physiological and therapeutic action, while the younger men are prone to use mixed tablets. They do not know what the effect ought to be and cannot tell what the effect is. The doses are measured by the pharmacist and not for the patients, or the medicine is given without the slightest idea of what is the matter with the patient. We have gotten away from the point where we can furnish and publish well digested editorials on these subjects for the Journal. I speak for the members of the council when I say that we are very glad indeed to have some one who is willing to write editorials on this or any other subject. We would be glad to print everything for them. So far, we have printed every article that has been furnished by a county medical society; but we would like to have an editor in the Department of Therapeutics

and Materia Medica, and if any of you know a man who is well qualified along this line, we would like to get him.

Alexander R. Craig, Chicago, Secretary of the American Medical Association, was called upon to discuss the papers. Dr. Craig said: A number of years ago I was so unsophisticated as to think that there was but one state medical society that was nearly perfect, and that society was Pennsylvania. I was born and raised in that State, and I thought that Pennsylvania was pretty nearly the right state, and I thought that because away back in the history of the American Medical Association Dr. John L. Atlee suggested, instead of having the American Medical Association, a confederation of delegates from schools and from medical societies. If I remember rightly he suggested a confederation composed of state medical societies and of county medical societies. But some ten years ago I met Dr. J. N. McCormack and then began to learn that here was, at least, another society that equaled, if it did not surpass, the Pennsylvania State Medical Society, and that was the Kentucky State Medical Association. For the last ten years I have been doing penance and fasting in the hope that I might some day be privileged to stand in the class of the members of the Kentucky State Medical Association. (Applause). That accounts for some of the pleasures and joy I have been having with you to-day. It is a pleasure to come here and see you and be with you and be made one of you, as you have so generously made me one of you in the capacity of Secretary of the American Medical Association, and if you secretaries of county medical societies have your troubles, you know something of the troubles that Dr. McCormack has had as secretary of the State Medical Association. I trust you will be a little more lenient with me as I have heard that there are troubles in connection with the office of secretary of the American Medical Association, but the county medical societies can materially help the American Medical Association. There are a great many things that we have in common. There is one thing I have learned in the few months I have been in the secretary's office in the American Medical Association, and that is, there is great need for coordinating our efforts. The time was when there were only a few inhabitants in a district, and the average medical society was not sufficiently large for its doings to attract the neighbors, and then, after a while, some man moved in and it became necessary to draw the line; that he should give up certain things. We felt bound by individual rights to the other fellow and demanded that the other fellow should give up something for our comfort, and so a community of interests was established. And then another one came and the matter became still more complex, so that to-day when you and I get up from our beds in the morning and turn on the electric light or gas light, we have used

the labor of a number of different individuals. When we go to our bath there is another group of men to whom we are indebted. When we go to breakfast still another complex relationship is entered into, and so throughout the day we find ourselves in a civic sense having an interchange of relationships, giving up certain things that belong to us under the extreme idea of personal rights for the advantage that comes to us from what we call civilization. It seems to me, we are in exactly the same position as physicians. When the country was so large that one doctor was either fifty or one hundred miles from another physician, he had to do the best he could. He may have been considered the best doctor in his community, but to-day, with a group of physicians coming into every community it is necessary to help the other fellow, and it is very essential for the other fellow to be helped. This other fellow is to be helped and we are helped by him to the best advantage at the present time by the advantages of the county medical society. The county medical society is in a peculiar condition. It is a body that treats of scientific subjects; at the same time, it undertakes to solve social and economic problems, both society affairs and the affairs of individuals. In order that these societies may live in harmony one with the other, being divided by a real or imaginary line, it is necessary for us to have a state organization to which these societies can send delegates to the business body without the advantage of taking a very active part in the scientific work, but nevertheless helping the scientific session. Every member of the county society is privileged to attend scientific sessions, in order that the state, divided by imaginary lines many times, shall be co-ordinated and held together. The national association comes in to which the state societies send to the business body delegates and, at the same time, the business meeting is being held the scientific work of the various sections is going on. Every county medical society has a great interest in the state society and an interest in the national association, and it is the feeling of many of us that this interest should be accentuated and acknowledged and emphasized, but in order that the American Medical Association may carry on its work it is necessary to maintain a keen interest in the scientific work. But this is too large a problem to enter upon to-night.

With reference to the problems of the secretary and the secretaryship, I want to say to you, the secretary of every organization can do effective work only in proportion as he is supported by the constituents of the various societies of which his organization is composed. It is very much like the old, old story, when Israel was in bondage. They fought with the opposing forces, and so long as the hand of Moses was raised toward heaven everything seemed to be all right, but the minute Moses' hand dropped the battle

turned against them. And so as Aaron and Hur supported the hands of Moses, it is necessary for you to support the hands of the secretary. The secretary cannot fight the battle alone because his physical force must give out, but if you put the spirit of Aaron and Hur into the secretary's work, the county medical society will be what you want it to be, and in turn the Kentucky State Medical Association what it ought to be. We find that all secretaries have troubles, and we will be happy indeed to hear from anyone who has solved the riddle of life somewhat after the fashion of this little jingle:

"There's a little secret,
Worth its weight in gold,
Easy to remember,
Easy to be told.

"Changing into blessing
Every curse we meet,
Turning hell to heaven,
It is this—keep sweet."

REPORT OF COMMITTEE ON WORK TO BE UNDERTAKEN BY COUNTY SECRETARIES DURING THE COMING YEAR.

G. E. Gianinni presented the following report:

The medical profession should be the leaders in every community on matters of health. The county medical society is the organized representative of the profession. Its duty is to teach the public correct views on public health. Our relation to the public should be such as will inspire confidence.

For report on work to be undertaken by county secretaries during the coming year, your committee submits the following:

1st. Get out a printed annual program. This program should have on it every doctor in the county. Put on four essayists for papers, two of whom you can depend on to be present and have their papers read.

2nd. Have regular meeting dates and places; meet at least once each month. For notices of these meetings mail a program to each doctor at least three days before each meeting.

3rd. Plan for a substantial social side of the profession; have a smoker, barbeque, or a dinner, etc.

4th. Take the public into your confidence; have open meetings; invite the public to attend. Have joint meetings with teachers, ministers, lawyers and druggists; discuss medico public questions; and put them on the program; as expert testimony for a lawyer; the moral influence of the doctor for a minister; medical inspection of the schools for a teacher; or patent medicines or national formula to be discussed by a druggist.

5th. Meet with the Anti-Tuberculosis Society some Sunday at church. If you haven't any Anti-Tuberculosis Society, organize one; you need it.

6th. Special notice to the doctors before each meeting; the day of the meeting call each one by phone, or send one by for another one and insist on his coming.

7th. Make it plain to every doctor that it pays to attend his medical society, for he needs the society and the society needs him.

8th. Have a Medical Education Committee appointed by the society whose duty shall be to occasionally have printed in local newspapers articles on tuberculosis, public hygiene, and other subjects of general interest.

9th. When a paper is read before your society that will be of interest to the public have it published in the local papers.

10th. Secure all the good papers for the JOURNAL and some that are not so good, for it will encourage the writers to do better next time.

11th. Report your meeting to the JOURNAL promptly for publication. It will help very materially to keep up interest in your society, if your members read in the JOURNAL what they have said in the society.

12th. Get every eligible doctor in your county to join the society and pay his dues promptly; this has been done in some counties and can be done in all.

13th. Each and every secretary should strive to make his society the best in the State. The foregoing are only suggestions of what may be done. The secretary should have a creative mind and add to or take from these suggestions as will meet his local needs.

Respectfully submitted,

B. E. GIANNINI
Chairman.

A. T. McCORMACK,
Committee.

On motion of Dr. McCormack, the report was adopted.

The following officers were nominated and elected: President, T. A. Frazer, Marion; Vice President, Vernon Blythe, Paducah; Secretary, L. H. South, Bowling Green.

Adjourned.

Adenosarcoma of Left Kidney in a Child.—Pederse presents the history of a case of adenosarcoma of the left kidney occurring in a child of three years, previously healthy. The important points in this history were the appearance of copious hemorrhages from the bladder and of pain in the left side. It was found that the urine escaped from only one ureter. Operation for removal of the kidney showed that it was an adenosarcoma. The child recovered.

ORIGINAL ARTICLES

PRACTICAL LESSONS FROM EIGHT MONTHS OPERATION OF OUR VITAL STATISTICS LAW.*

By W. L. HEIZER, Bowling Green.

STATE REGISTRAR OF VITAL STATISTICS.

Twelve months ago the Vital Statistics Law existed only on paper. Within sixty days there had sprung up, as in a night, an army of thirteen hundred local registrars chosen by the physicians of the State. A personal visit to about fifty counties in every section of the State, hundreds of letters from local registrars, prompt monthly reports from every county of the State, convince us that no more capable body of officers could have been selected. In this period competent men had been chosen to serve the interests of the State at a small compensation, their commission and supplies forwarded, and on the first day of January 1911, the Vital Statistics Law began its operation without a hitch.

The apparent ease with which this enormous task was accomplished is explained only by the fact that Kentucky has the best Medical organization in the United States.

The undertakers of the State upon whom, perhaps, is worked the greatest hardship in securing data and a burial permit, generously endorsed the law, and at their annual meeting of undertakers and embalmers in Louisville, May, 1911, passed unanimously a resolution setting forth the value of the law, and pledged their united and individual support in the present health campaign of the State Board of Health.

The physicians of Kentucky, following their habit of cooperation in doing good things, took hold and pushed hard and all together, thus, overcoming the first storm of protest that always comes when establishing a new order of things.

There is no question but that the present satisfaction and pride that the people of the State as a whole now manifest toward their law is a result solely of the missionary work done by the medical profession of the State in explaining to them its worth and relation to their material and physical welfare.

Forty thousand two hundred and fifteen births and 20,821 deaths have been reported. The relative causes of deaths from communicable diseases, deaths from cancer and violence makes an interesting picture. Tuberculosis is responsible for 18 per cent. of all deaths the average of registration states being 11 1-2 per cent. Thus, is clearly pointed

out, by official records, the greatest fight the people of Kentucky must make. Pneumonia follows with 8 1-2 per cent; violence 4 1-2 per cent; diarrhoea and enteritis (under 2 years) 4 per cent; cancer 3 per cent; typhoid 3 per cent; meningitis 3 per cent; influenza 2 per cent; measles 2 per cent; whooping cough 1.4 per cent; diphtheria and croup .8 of 1 per cent; puerperal septicemia, .5 of 1 per cent; and scarlet fever 1-100 of 1 per cent of all deaths.

It is an old saying that statistics is a great deal like butter. They depend upon who makes them. And so it is. The medical profession of Kentucky has undertaken the task of making statistics for the State. They have made an enviable start and they have entered not for a day or year, the warfare against preventable diseases. They realize that Vital Statistics are as inseparable and indispensable for consistent, intelligent health work as book-keeping for a bank. They know, too, that incomplete statistics are worthless as they tell false tales; therefore, it is the duty devolving upon them to insist that every death that occurs in a community shall be properly recorded. The unfortunate few who are callous to human suffering, indifferent to progress, ignorant of the altruistic in their profession, we always have with us. And, occasionally, we hear of a man said to be a doctor who refuses to comply with the law and make returns of births and occasionally deaths. They fortunately are rare, and a recent summary of the accounts of physicians, with whom we keep an open account of every one in the State, shows that such a man belonging to the Kentucky Medical Association is the exception. It is unfortunate that we are not permitted to allow such a one to follow in peace his perverse, selfish way. Such a line of conduct, however, vitiates the Vital Statistics of his community or county and affects the State record, may deprive the widow or children of property or social privileges, prevent the prompt location of an epidemic, and is a violation of law; and it is the unpleasant duty of the medical profession to insist that all such violations be brought to the attention of the proper authorities. Recent accounting with all the doctors of the State shows that 95 per cent. of them are reporting promptly their births and deaths.

Probably one of the most important features in making a death record is to state accurately the cause of death. Industrial insurance policies of some of the companies, which contain limitations of payment when death is due to tuberculosis, are responsible for some suppressions as to the cause of death from this disease in order that the physician's bill may be paid. Of course, this is a problem of downright honesty or dishonesty of the

*Read before the Kentucky State Medical Association, Paducah.

physician and this paper cannot or will not change a man's moral nature. Again it has been found that a physician is fearful of his reputation as a typhoid fever doctor if he makes a return of death from plain typhoid, and states a more deadly disease. Again, we are unable to change the "leopard's spots" or supply courage where that quality is lacking. The real problem is yet before us. What the people of the State want is not to be told of the loss of their family and friends, as shown by the death records of the Bureau of Vital Statistics; they have already a record of such events written in disappointed, heart-broken lives, and the newly-made graves of their dead. They want and demand relief at the time of their affliction and before death lays his hand upon their loved ones.

This means that that part of our law requiring the report of morbidity statistics be put in operation at the earliest possible moment. This has been deemed inadvisable as yet, until we are accustomed to the new order of things in reporting our births and deaths. As soon as our machinery has been thoroughly tried out, is in good working order, the added task of reporting communicable diseases will be undertaken; and it is then and not until then, that prompt life-saving work will be done most effectually, and we will have vital statistics in contradistinction to devitalized statistics with which we are all so familiar.

In the meantime we have urged our local registrars, Health Officers, and the medical profession to report promptly epidemics that active steps may be taken at once.

As a practical example of what Vital Statistics mean to the people the epidemic of typhoid at Paintsville is mentioned. This fact was reported at the time of their distress and an immediate investigation was made. The focus of infection was found, from which twenty-five cases had developed, resulting in three deaths. The excreta from the first case were thrown upon the ground within ten feet of a mule shed in which were breeding thousands of flies. By them the disease was carried into the unscreened homes and later the water supply below was infected. A meeting of the public was called, fully 500 being present, a public health talk was given, their disease explained to them and the means of its spread and prevention. The County Board of Health met with the most influential citizens of the town and appropriated enough money to haul away filth, remove the numerous pig pens, screen houses, provide lime and containers for bowel and kidney discharges. These measures were faithfully carried out by the County Health Officer, Dr. Daniel, and within ten days the epidemic was under control.

Again at Sandy Hook there occurred an epidemic of typhoid fever with twenty cases and two deaths. An investigation revealed an infected water supply by means of open top wells and the bucket-on-rope method of drawing water. In one instance there were five ill in one family and the well was located under the same roof. An attendant from the sick room drew a bucket of water and used the fingers to release the valve at the bottom of the bucket, permitting the water to flow over the hand into the bucket.

Similar action was followed, as in Johnson county, almost the entire population attending the public meeting. The county liberally voted enough money to clean up, screen houses, and set the example by installing a pump properly fitted to a new concrete top extending down the wall of the well for a distance of four feet. Under the direction of Dr. Lyons, county health officer, the epidemic was checked almost immediately.

This is our conception of what Vital Statistics really mean and the only way the people can know or will know what can be done in the way of preventing disease.

We have been able to learn of the prevalence of hookworm disease in many counties of the State. In several instances we have had the pleasure of addressing audiences in which there have been from one to four hundred school children. When asked to raise their hands if any had ever suffered from "dew itch" or "ground itch," a survey of the large per cent of children who responded showed, conclusively, that hookworm was prevalent in those communities. This again is what we believe Vital Statistics to mean. Our records of deaths and reports from physicians and health officers resulted in the calling of the pellagra conference at Corbin, one of the most remarkable gatherings it has been my privilege to attend. At that time about one hundred and forty cases were reported, symptoms and treatment discussed, and efforts instituted to study its etiology.

Covington and vicinity is now having an epidemic of anterior-polio-myelitis. We have just finished an epidemiologic and clinical study of twenty-six cases*, and while no new facts as to its etiology have been discovered, much that will be of value to the profession, hence to the people of the State, will be published soon in the bulletin of the State Board of Health. These are illustrations of what we are endeavoring to do to make Vital Statistics of real value to the people for whom and upon whom the labors of the medical profession and its executive staff, the State Board of Health, are expended.

With this aim in view, we propose to pub-

*This number is increased to 45 December 1, 1911.

lish in the monthly bulletin articles written especially for the public. They will be told how diseases are spread, prevented, and controlled, their prevalence and the importance of complete reports of births, sickness and deaths. The bulletin will be mailed to every school teacher in the State for whom special articles will be written for use in the school room; every minister in the State, doctor, local registrar, undertaker, State and county officer, newspaper editor, and to every member of the Woman's Clubs of the State. A number of teachers' institutes have been visited, and it is part of the plan to visit every teachers' institute in Kentucky. By this means of cooperation, it is hoped that there will be taught, to-day, what yesterday we did not know about the prevention of diseases and preservation of health, that, to-morrow, the people of Kentucky may live longer, happier, and freer from disease, and be able to carry on the warfare against preventable diseases with less opposition from the ignorant who must be protected in spite of themselves.

We believe that by proper cooperation of these forces, we can add, within one generation, a few years to the average of human life in Kentucky and make it plainly apparent to enough people that it is an economic proposition in the saving of unnecessary drug, undertaker, nurse and doctors' bills, to provide more money for a greater scope of work and employ in each county of the State a specially trained health officer, at a living salary, to prevent the spread of communicable diseases.

DISCUSSION.

J. N. McCormack, Bowling Green: As some of you know, I have been out of the State for the last three months, and while Dr. Heizer's work is being conducted under the superintendency of the State Board many of the figures he has presented this afternoon are a revelation to me. I know the scope of his work, and I know his fitness to discharge the duties which have been assigned to him. I knew the spirit with which his work would be received by the undertakers because I had attended their state meeting; but the unanimity with which the work has been undertaken by the profession, by the local registrars, and by the undertakers has been a surprise to me. Nothing like it has occurred in any state in the Union. I was assured by Dr. Wilbur that it would be useless for us to attempt to collect births in Kentucky until we educated the profession by collecting the deaths for about ten years. He said it could not be done in any state in the Union. We have gotten nearly all births for almost every county in the State of Kentucky for nine months. I would like at this point to pay my tribute to the doctors of Kentucky, and espe-

ally the doctors in the country districts who have taken up this work in such a fine spirit, and then pay my tribute to the undertakers of the state who have unselfishly, and without compensation, volunteered to do this great work for our people. With such a work and spirit it is only a question of time when we know we will have every case of sickness that occurs and every death reported in this state, and what causes the death and be able to institute a course of study as to the cause of particular epidemics.

Dr. Heizer's modesty prevented him from saying that he was sent to Painsville as a result of death reports which came in through the agency of the State Board, to make an investigation of an endemic of typhoid fever and to undertake preventive work. He did the same thing at Sandy Hook. I am glad for you to know that. It is in this practical spirit this work is being conducted. In the same way the board has undertaken the survey of the water supplies of the State of Kentucky. We expect to take two or three years to do this; we expect to have maps of the entire water supply of this state and the sources of pollution in every locality if we can continue to have the united support of the members of the profession of Kentucky, as we have had in the past. We know that excellent work is being done in the State Bacteriological Laboratory, no better done in any other state in the Union. In this connection I would like to say, I had a letter yesterday from the director of the Rockefeller Sanitary Commission, saying they were just ready to take up the hookworm work in a voluntary way; that they have salaried officers appointed in nearly every state of the Union, and he said that nothing had been presented to the hookworm convention equal to that of our State Bacteriologist at the meeting held in Nashville. So, while we are in the infancy of this work, the kind of support we are going to have from the doctors in every community in Kentucky will enable us to do almost ideal work in this state in the next four or five years, and it gives me great pleasure to commend the efforts of my young friend, Dr. Heizer, whose work has been so able and so efficient, although we are hardly paying him a salary sufficient to support his family. But we are going to correct that some of these days. I want to commend him to you, and ask that you return to your respective county societies, call a meeting of the undertakers and local registrars and doctors, and take up all this work in each county in the state in the kind of way that the benefits of modern sanitary science can be brought to every hearthstone in the State of Kentucky. (Applause).

T. A. Frazer, Marion: The only thing I regret is that there were so few present to hear the excellent paper that was presented by Dr. Heizer. It depends upon the doctors to make these laws popular. I have not heard of a doctor who belongs to this association objecting to the

Vital Statistics Law. Dr. Heizer has labored faithfully in this work. He has written thousands of letters; he has called hundreds of doctors up over the telephone. He has labored day and night, and I want to compliment him on the work he has done. In this connection I want to say that whenever a politician sticks his head up for the position of representative or senator in any district of the State, the doctors ought to demand of him how he stands on these vital questions, and I want to say to you, no man can ever get my vote who is opposed to the work that is being done by the State Board of Health and by Dr. Heizer. No man can ever get my vote who is ready and willing to vote against the lives of the women and babies of the State of Kentucky. There is no music so sweet to the ear of man as the prattle of a healthy, happy baby, and let us as doctors do our duty. Let us as doctors stand by the right and tell the people that this is a labor of love for them and not for ourselves; that we are not looking for glory nor for honor, but that we are looking to the welfare of men and women, of the boys and girls of Kentucky. Let us tell the people we think more of the boys and girls of Kentucky than the politicians and all of the filthy dollars that ever went into anybody's pocket. Let us tell the people that we are doing this work for them and not for ourselves; that we are trying to protect the mothers and babies; that we are trying to save them from untimely deaths, from some preventable disease; that we are trying to snatch them, as it were, like a brand from a burning flame, and that we are in earnest about this work, that our heart is in this work, and that we expect to keep it up in spite of any opposition that may come from any source under the shining sun.

W. L. Heizer, (Closing the discussion): I simply want to take this opportunity of thanking the physicians through our official organ, The Kentucky Medical Journal, for their united and hearty support they have given us in this campaign. We fully realize that without the support of the physicians of the State we would be helpless and powerless, and I also desire to thank the speakers for their kind remarks.

TYPHOID FEVER AS SEEN AND TREATED BY THE COUNTRY PRACTITIONER.*

By V. A. STILLEY, Benton.

According to Osler and all of the best authorities, typhoid or enteric fever is a general infection caused by bacillus typhosus, characterized anatomically by hyperplasia and ulceration of the lymph follicles of the intestines, swelling of the mesenteric glands and spleen, parenchymatous changes in other or-

gans. While these lesions are almost constant, there are cases in which the local changes are slight or absent, and there are others with intense localization of the poison in the lungs, spleen, kidneys, or cerebro-spinal system. Clinically the disease is marked by fever, rose colored eruption, diarrhoea, abdominal tenderness, tympanitis, and enlargement of the spleen. These symptoms are inconstant as you all know the fever varies in its character. I think it hardly necessary to go into the history of typhoid fever except to say, that in 1818 Pierre Breteanu, and in 1829 Lewis, gave it the name of typhoid. Typhoid bacillus was first discovered by Koch and Eberth and first cultivated by Gaffky in 1884. Typhoid bacilli has a remarkable resistance. In sterilized water it retains life for sometime up to three months or more, and it shows at first slight increase. In water that is not sterilized it perishes in about fourteen days on account of the water bacteria, this occurring more rapidly in flowing than in still water. Under favorable circumstances, protected from light, drying, and other forms of bacteria the typhoid bacillus retains its property of life for a very long time. So in milk that has been experimentally contaminated, for thirty-five days, bacilli which were living, showed properties of development. In the superficial layers of the earth they have been shown to be alive after five and one-half months. In mud taken from rivers and wells this condition was noted for three months. Dried in thin layers of earth they remain alive from twenty to thirty days. Dried in various articles of clothing from one to two months. (Uffelman). They remain in feces three months at the longest, provided however, that there are not present simultaneously many bacteria which produce decomposition. In the dead body they also appear to remain alive a long time. (Losner). They bear cold well. Alternate freezing and thawing does not injure them. They are less resistant to heat. The germ enters the body through the digestive tract, and produces characteristic ulcers in Peyer's patches and solitary follicles of the small intestines. From these the bacilli make their way to other parts of the body especially the spleen, liver, kidney, gall bladder and mesenteric lymph glands. The bacilli are found in the intestinal ulcers, the mesenteric lymph glands, spleen, liver and occasionally in the gall bladder. They are eliminated by the feces and sometimes by the urine. Ages that are most frequently attacked are from fifteen to thirty years. Not any special difference as regards sex.

PRODROMINAL STAGES.

Headache, pain in limbs and back, characteristic temperature curve (though not al-

*Read before the Kentucky State Medical Association, Paducah.

ways present) showing general rise with daily remission, spleen enlargement, pea soup stools, dicrotic pulse, rose spots, etc. I am merely detailing the symptoms of an ordinary case of typhoid fever, as all of you with experience know that each case is a rule unto itself as to the most predominating symptoms, for very few cases in my experience have all the symptoms of a typical case. The eruption is a discrete, slightly raised, hypereamic macules, so-called rose spots or roseolae, varying in size from a pin head to a pea and disappearing on pressure. The spots appear about the beginning of the second week chiefly on the abdomen, also on the lower chest, back, and thighs. They recur in crops throughout the second, third, and fourth weeks. To differentiate typhoid from malarial fever in our country is very difficult. In a great many cases the clinical course and the temperature curve may be quite similar in the two diseases, and it is only after eliminating malaria that you can diagnose typhoid. We can have recourse to the use of the Widal test, and thanks to our very efficient State Board of Health, we can have our doubtful cases examined by a competent bacteriologist for the asking, and to my mind this is one of the greatest strides we have made in Kentucky for years. For preventive medicine and knowing how to treat and diagnose disease is for medical men. The complications are many in typhoid fever: Pneumonia, meningitis, constipation, nephritis, diarrhoea, perforation, peritonitis, etc. Perforation occurs toward the end of the second week or during the third week, or again in one case of my experience perforation occurred eleven days after temperature became normal.

Hemorrhage occurs from the twelfth to the twenty-fifth day. If you have continued hyperpyrexia you may have meningitis.

SANITARY PRECAUTIONS.

The stools, urine, vomit, and sputum, and the towels, napkins, bed-linen, and clothing should be disinfected, which most of us fail to do in the country practice, for it is almost impossible to have your instructions carried out.

PROPHYLAXIS.

Good water not contaminated, avoidance of uncooked food that has been exposed to infection, disinfection of all materials, feces, sputa, bed-linen, clothes, etc., as stated above. A case in point that has not been reported to the journals of the contamination of typhoid fever occurred in an adjoining county. A party of thirty-eight were gathered at a quilting. During the day there was quite a hard rain. The water in the well became muddy from surface drainage, and in three weeks there were twenty-five cases of typhoid fever

of those who were present. There had been typhoid fever in that house some months before, and the analysis of the water showed typhoid bacilli in abundance, which proves the more conclusively the absolute necessity of looking into our water supply and the disinfection of stools, etc., for every case of typhoid fever is dangerous to the county without this precaution, and for every case of typhoid there is a source of infection. Vaccination against typhoid fever is due to a French physician, but the French government did not adopt it for the protection of its own soldiers until after this method had received thorough and successful trial in the armies of both the United States and Great Britain. In the British army, especially in the colonies, it is now as much used as vaccination against smallpox. In the United States army there are only one-sixth as many cases of typhoid as before this method was adopted. It's worth was convincingly shown during the recent massing of troops on the Mexican border; and I see from reports that the Surgeon General of the Army and several members of his staff propose to subject themselves to vaccination against typhoid fever, so great is their faith.

Treatment of typhoid fever is purely symptomatic. There being no specific, I begin treatment by cleaning out the alimentary canal. Calomel being preferable to me on account of the chologogic and disinfecting effects. Use salol, digitalis, bismuth, phenacetine as the indications arrive, and as for antipyretics, to my mind there is less shock to use them (well guarded) in most cases than the Brand method of hydrotherapy or any other method of hydrotherapy except sponging, as it is entirely impossible in the majority of cases of the country doctor's practice. Very few of our patients have a bath tub and a great many of them never saw one. Diarrhoea should be treated by bismuth, calomel, and opium. Keep the bowels open.

HEMORRHAGE.

Ice, morphine, sulfuric acid, ergot, and any other complication in the course of the disease, of course, should be met. Disinfection of stools by lime is best, and of urine and bed-clothes by carbolic acid. The patient should be kept as quiet and clean internally and externally as is possible under the circumstances, looking always for any untoward symptoms. The diet should be nutritious liquids. Milk is my preference, of course varying with other liquids. But after all the prevention of typhoid fever is our greatest duty.

TYPHOID FEVER—STATISTICS AND PROPHYLAXIS.*

By PAUL HANSEN, Bowling Green.

STATE SANITARY ENGINEER OF KENTUCKY.

Previous to 1905 there was an average death rate from typhoid fever within the vital statistics registration area of the United States of 32.2 per 100,000. Since then there has been a steady decrease until in 1909 the death rate was reduced to 22 per 100,000, or double what it is at the present time in most European countries. The death rate in this country is not nearly as great as the death rate from two other preventable diseases, namely: that from tuberculosis which is about 7 1-2 times as great, and that from pneumonia which is about 6 1-2 times as great. In its fatality typhoid is about on a par with diphtheria and croup (death rate 21.2 per 100,000) and bronchitis (death rate 24.9 per 100,000) while it claims about double as many lives as do measles (death rate 10 per 100,000) scarlet fever (death rate 11.9 per 100,000), and influenza (death rate 13.6 per 100,000).

Notwithstanding these relative figures the prevention of typhoid fever is generally regarded as second in importance only to the prevention of tuberculosis, and rightly so for many reasons, the chief of which may be stated as follows:

While typhoid has a lower death rate than tuberculosis or pneumonia the percentage of fatal cases is much lower thus producing a morbidity rate which is nearly as great as that for pneumonia.

Typhoid is, comparatively speaking, a readily preventable disease and there is little if any more excuse for its existence than there is for the existence of Asiatic cholera, and it goes without saying that where the remedy is evident and can be applied no time should be lost in making the application.

The means used to wipe out typhoid fever are also a great protection against infection by other diseases—for example, it has been conservatively estimated that purification of public water supplies will save 3 or 4 lives from deaths due to other causes for every life saved from death due to typhoid fever.

Typhoid fever is essentially a filth disease, for infection by the typhoid bacillus implies that one has swallowed fecal dejecta coming from some other person and though this fact is not always visibly evident the mere suggestion is sufficient to raise a vigorous demand for sanitary improvements.

Finally, it is to be noted that in the United States the total number of deaths from ty-

phoid amounts to about 20,000 per annum, the number of cases of sickness not resulting in death amount to about 180,000 per annum, and the financial loss no doubt reaches the stupendous total of \$100,000,000 besides which the cost of preventive measures dwindles into insignificance. To this it may be added that according to a very conservative estimate made by Dr. J. N. McCormack on the basis of voluntary statistics sent in by physicians, the financial loss from typhoid to Kentucky is about \$5,000,000 per annum.

Dr. W. L. Heizer, State Registrar of Vital Statistics, has furnished some interesting mortality figures for typhoid fever in Kentucky during the present year, from which it would appear that from January to August inclusive, deaths from this disease occurred at the rate of 25 per 100,000 population per annum, thus showing that Kentucky has more than the average amount of typhoid fever found in the other registration states. The statistics are further arranged by Dr. Heizer to show death rates by county groups designated as the eastern or mountain group, the Ohio River group including all the counties bordering the Ohio River, and the intermediary group including the main portion of the blue grass region and the remainder of the State. The mountain group shows a death rate of 26.1 per 100,000, the Ohio River group shows a death rate of 20.2, and the intermediary group shows a death rate of 28.1. The low figures for the counties bordering along the polluted Ohio is rather interesting as indicating the protection which the purified water supplies of the large cities afford against typhoid infection. The other two figures are high and are probably due to unsanitary conditions both urban and rural.

At the risk of repeating something that is already well known among the physicians of the State, a brief review will be given of the accepted facts relative to the character of the typhoid bacillus and modes of typhoid infection. Without these facts clearly in mind the value of certain prophylactic methods cannot be properly appreciated.

By a strong chain of evidence, mostly circumstantial, the bacillus discovered by Eberth in 1880 is now known to be the cause of typhoid fever. It is a rod shaped non-spore forming organism with rounded ends and from 0.001 mm. to 0.004 mm. in length. It is provided with a number of flagella which give the germ a lively motion in liquid media. But very little is known of the inner structure or the precise conditions which affect its behavior inside or outside the human body.

There are, however, a few things concerning the germ that are known and which fortunately furnish the key to positive prophylactic methods. To begin with, we know that

*Read before the Kentucky State Medical Association, Paducah.

when typhoid invades the human body enormous numbers of the bacilli, counted in billions during a single day, are discharged with the urine and feces being specially abundant during the earlier stages of the disease. The length of time that the germs continue to appear in the bowel and bladder discharges is variable and may be from a few weeks to many years. Persons who carry the germs for great periods of time are designated as typhoid carriers, and there are instances of such carriers who have never actually succumbed to the germs' attack. Occasionally the nose and throat are found to contain the bacillus, especially when pneumonic symptoms are present, and thus sputum discharges become infected. Much more rarely the germs are found in the perspiration, and of course sores on the body may be a source of infection.

Outside the human body the typhoid bacillus generally finds an unfavorable environment and dies out rapidly. There is, however, a resistant minority, numerically great, however, which may persist in virulent form for long periods of time, many weeks or even months. Exact knowledge as to the longevity of the typhoid bacillus outside the human body is very meagre. Laboratory experiments would indicate that the most resistant forms may persist in moist fecal matter for months or even years, in water at ordinary temperature for about three weeks, in ice about two weeks, in water at boiling temperature not over five minutes, in fresh milk indefinitely, but in some milk they are very short lived, and dried in sun light not over ten minutes. It is indeed fortunate that the typhoid bacillus is thus nonresistant for otherwise it would be the greatest scourge of the human race.

From this general summary it is evident that aerial and fomite infection by typhoid fever are negligible quantities, but an indiscriminate disposal of bowel and bladder discharges, especially the latter, an ineffectual manner of handling these discharges, or carelessness in touching the patient may result in the infection of the healthy through contact, through the medium of flies and possibly other insects of filthy habits or through the contamination of drinking water, milk, shellfish, vegetables and fruits, eaten raw, and no doubt also by some means not now recognized.

Plainly all typhoid infection by the means above enumerated could be effectually stopped; first, by thorough disinfection of all discharges at the patient's bedside and by continuing such disinfection until the typhoid germs have entirely disappeared from the feces and urine, and second, by unusual precautions on the part of attendants and the convalescing patient to prevent contact in-

fection through the medium of soiled hands, utensils, dishes, soiled linen and clothing. This line of defense against the spread of the typhoid germ in the very nature of the case cannot be made perfect because of frequent ignorance and stupidity on the part of patient and family, failure to discover the case in its early stages, failure to make an early diagnosis and the impracticability in most cases of examining analytically the discharges of convalescents. But it can be made far more effective than it is at present and it is highly important that it should be made more effective, especially in small towns and rural districts where the old fashioned privy, cesspool, and the shallow well abound. Disinfection of discharges and precautions against contact infection can be rendered an effective barrier against the spread of typhoid fever only through the activity of the family physician in instructing his people in the character of the disease and the precautions which must be taken against its spread. When, as often happens, the patient and the patient's family are ignorant or stupid the physician will confer a public service by making some arrangements for treatment in a hospital when available, or by providing trained nurses. In these matters the public health and public service authorities alone are almost powerless; cooperation of the family physician is absolutely essential.

Once the typhoid bacteria have passed the barrier formed by the immediate control of the patient's discharge at the bedside, infection of other persons is certain to occur in many instances; but there is much in the way of providing secondary barriers that the public health and public service authorities can do, should do, and should be provided with means for doing. It is the purpose of the writer to discuss the character of some of these secondary barriers in the following.

With increase in the size of cities pure water supplies are no longer obtainable from springs and wells, with the result that they must be taken from large surface streams. With increase in the density of rural populations and increase in the number of the smaller communities the surface streams inevitably become so polluted that they are unsafe as sources of domestic water supplies. Because of the fact that water is a prime necessity of life and is used by everyone it has been the universal experience of communities which have sewage polluted water supplies to have an abnormally high death rate from typhoid fever, and occasionally, such communities are visited with great epidemics. Purification of public water supplies can now be effectively and economically brought about by methods well known to sanitary engineers, and there is no one thing that is so effective,

in checking the ravages of typhoid fever, as well as other less definitely defined water-born diseases, as purification of public water supplies. The cost of purification under the most unfavorable conditions rarely exceeds \$3.00 per capita for original construction and often is less than half this amount. The cost of operation does not exceed 20 cents per capita per annum. Such sums as these are so insignificant when compared with the value of the great number of lives that may be saved that there no longer remains any excuse for any community not having purification unless its public water supply is well above suspicion.

The inevitableness of more or less stream pollution has already been referred to but there is no excuse for our streams, which should be available as public water supplies, becoming so contaminated as to place an unreasonable and unsafe burden upon water purification works. As in the case of the design and construction of water purification works, sanitary engineers are now in possession of sufficient knowledge and experience to enable them to design and construct treatment works for sewage and industrial wastes that will meet nearly any local situation likely to be encountered. The conservation of a reasonable purity of the waters of our streams cannot be undertaken any too soon and some central state authority such as the State Board of Health should be given ample means both legal and financial to carry on an effective regulation of this important matter.

Next in importance to the protection and purification of our public water supply is the control of milk supplies. Some means should be found for frequently inspecting every dairy in the State where milk is produced for public sale, and samples of the milk as delivered to the consumers should be frequently analyzed. Whether this work is done by the State, the municipalities, or a combination of the two makes no material difference, but it is of prime importance that it be done thoroughly and that dairymen producing unclean milk be dealt with promptly and fearlessly.

In every community the local health authorities should be specifically directed by ordinance to abolish all private wells where a public water supply of assured good quality is available unless it can be definitely shown that the construction of the well and the peculiarities of the geological formation penetrated absolutely preclude the possibility of the water being influenced by surface conditions. In built up communities soil pollution on an extensive scale is unavoidable and contamination of ground water is bound to follow.

In the light of the now well known filthy ways of the house fly, the danger of an ag-

gregation of outdoor privies and other accumulations of filth must be at once apparent and it is quite as important as in the matter of private wells that the health authorities should be specifically instructed by ordinance to abolish all privies where public sewers are available; and where sewers are not available the ordinance should prescribe a type of privy that will effectually prevent access of flies to the fecal matter and provide for frequent inspection in order to enforce the maintenance of such privies in a proper state of repair and cleanliness. Accumulations of garbage and stable manure should not be tolerated in densely inhabited districts, and wherever possible municipal free collection should be provided.

Finally there should be maintained an inspection of foods likely to be eaten raw such as shellfish, berries, celery, other vegetables and fruit, to make certain that neither in the growth or the handling of such foods is there a chance for dangerous contamination. Such food inspection is quite as important as meat inspection regarding which we hear so much. The fact that meat is rarely eaten raw removes from it the danger that attends the consumption of raw foods.

By way of brief summary it is desired to state that the death rate from typhoid in this country in general and in Kentucky in particular is far too high, and moreover a high death rate is especially prevalent in rural districts where unhealthful conditions seem least excusable.

The first line of defense, and in the rural districts the only line of defense, against the spread of this dread disease must be maintained by the physicians through careful and painstaking instructions to their people and, in cases where ignorance must be dealt with, through the utilization of hospitals or at any rate through competent trained nursing.

Inasmuch as the first line of defense is a long and thin one and inasmuch as it is constantly being attacked at all points it is not to be wondered at that it is often broken through. The second line of defense must then be held by the officials in charge of public health and public utilities; and as the second line of defense is also the last line of defense it should be made as impregnable as possible and no gap or defile should remain exposed. To this end our water supplies must be made safe beyond peradventure of doubt; our streams must be protected against undue contamination; our milk supplies must be subjected to rigorous control; polluted wells must be filled in; outdoor privies must be abolished wherever possible and where this is not possible they must be well constructed and carefully supervised; there must be inspection of foods eaten raw; and to prevent the breeding

of flies accumulations of manure and filth must not be permitted.

Typhoid is a filth disease and to stop having typhoid we must stop swallowing human dejecta.

DISCUSSION.

W. F. Boggess, Louisville: However trite a discussion on typhoid fever may seem, it is always a question of such vital importance to the physician and laity that it should never become trite, and if we should have a symposium on typhoid fever at every annual meeting of our State Medical Society, the time spent in listening to that symposium would not be in vain.

The subject of typhoid fever is one that is not only vital, but it is as yet an unwritten book. I dislike very much to hear the term self-limited used in any disease, and in no disease is the term so misleading as in typhoid fever. To say that the treatment of typhoid fever consists entirely of proper feeding is not true, nor is it scientific. There is much in the prevention of complications in typhoid fever from treatment. There is much in the medical treatment of typhoid fever just as there is in other infectious diseases, and while some men claim that they get just as good results from the withdrawal of all medicaments and simply administer water and no food, another practitioner of repute will say that he can abort every case of typhoid fever within ten days by injecting first one grain of bichloride of mercury, and a half a grain the second day, and a third or a tenth of a grain of bichloride of mercury on other days. We have all these fads and foibles to contend with.

As to the etiology and pathology of the disease, in every case of typhoid fever we have an infectious disease of a dangerous character, and there is no such thing as a mild case of typhoid fever. You have a disease that has got to be watched from beginning to end; you have a disease where the complications must not only be checked, but these complications can and must be avoided by a proper line of handling and proper line of treatment.

As to the feeding, one of the most important things in the treatment of typhoid fever is feeding, and more patients have been lost on account of the false idea that a certain limited amount of sweet milk is all a typhoid patient should have. There is no greater fallacy in the profession than the method of feeding typhoid fever patients in the past two or three decades, because some person started the idea thirty or fifty years ago that sweet milk was the diet for typhoid fever patients, and we have followed it blindly for a number of years, when in fact not a drop should be given. When you understand it is an infectious disease, with a rapid destruction of the albuminoids of the body; that it is a disease where granular degeneration and parenchymatous degeneration of the tissues of the body are taking place, produced by toxins, you must of necessity

feed patients better and more than you ever have done in the past.

The subject of typhoid feeding is an interesting one. It is a scientific one. You must give these patients sufficient food not only to carry on the ordinary functions of life, but also to take the place of the albuminoids that are burnt up so rapidly by the toxins of the disease. You must base your typhoid fever feeding on so many calories—at least two thousand calories. You must give the patient that much day after day if you would expect him to do as well as he ought to do. This is done not by feeding sweet milk. A patient with typhoid fever should never have a drop of sweet milk during the whole course of the disease. You can give him buttermilk and soups. I do not mean beef teas, but soups with vegetables cooked in them. You can give him starches and well-cooked starch, well cooked rice, well-cooked oatmeal. You can give him eggs and many substances other than milk. You must keep in mind constantly that an underfed typhoid fever patient is incomparably more liable to the more serious complications of perforation and of hemorrhage than is the overfed and properly fed typhoid fever patient, who is incomparably less liable to have these serious complications. These patients should be properly fed.

As to internal medication, it has been my practice for years to give every patient with typhoid fever a certain amount of medicinal treatment. There is not a practitioner who has not got a specific line of treatment for his typhoid fever cases. You can treat the fever as well as anybody can. You have a certain specific treatment which you use. I will say this: I give every case of typhoid fever 10 grains of urotropin ever 4 hours during the course of the fever, and have given it for 15 years. I give every patient five grains of salol every four to eight hours during the course of the disease. Why do I give it? These are not only intestinal antiseptics, but they are systemic antiseptics. If urotropin will stop suppuration of the mastoid cells and other pus conditions and cure such cases, why should it not get into the other tissues of the body? If urotropin will get into the meninges of the brain and it is the best remedy to give in certain types of meningeal trouble, such as acute poliomyelitis, and if urotropin can be given by the mouth and will relieve these conditions, why is it not the best of systemic drugs you can use? Again, you have from the tip of the tongue to the end of the anus a catarrhal condition of the alimentary canal, whether the patient has a diarrhea or constipation. If he has a catarrhal condition of the alimentary tract with or without ulceration, and particularly with ulceration in any other disease than typhoid fever, you would give large doses of bismuth, every eight hours, during the first forty to fifty hours, either the subnitrate of bismuth or the subgallate of bismuth. Every third

day they get a dose of castor oil. It is one of the best armaments you have in typhoid fever; it makes no difference whether the patient has diarrhea or not, he gets occasionally a dose of castor oil, and when he does not take castor oil he gets normal salt enema, whether he has diarrhea or not. You want to wash out the colon.

Liston H. Montgomery, Chicago, was asked to continue the discussion. He said: I wish to thank you, Mr. President, for this opportunity of inviting me to participate in the discussion of this symposium. I have very little to add, hence I will take only a moment or two of your time.

Dr. Boggess has practically covered what I would say upon this subject, especially with reference to the feeding of typhoid fever patients. Like he, I believe in a fairly liberal diet. I do not depend upon a so-called sweet milk diet. I give to some of my patients custards and boiled rice and soups, and sterilized water to all of them in fairly liberal quantities. At the onset of the disease, I give castor oil as a laxative, and I practically give no medication throughout the entire course of the disease, that is, to a moderately well developed case of typhoid fever, even if the temperature should rise to 105 F. Where there is delirium, we usually resort to cold applications to the head, forehead and occipital region. Frequent sponging is a good thing in connection with the treatment of typhoid fever. I believe in the frequent changing of the linen, and sponging the body with alcohol and water, equal parts, at a certain temperature seems to be very pleasant to the patient. I do not pretend to offer anything but what you are perfectly familiar with. As I have said, I believe in feeding these patients pretty liberally, and I do not mean by that, giving them raw meats or anything of that sort.

As sacred scripture says—or some one originated the expression, cleanliness is next to Godliness, I am a great advocate of that idea.

In Chicago, during the early part of the year, there were four prominent physicians seriously ill with typhoid fever, two of whom contracted the disease in a southern city, but not in "old Kentucky." I am glad to say. One of these gentlemen addressed you last night, Dr. Murphy, contracted the disease while on a visit to one of the southern cities. I am happy to report they have all recovered.

Recently I treated the case of a boy, twenty years of age, but I really think his convalescence was due more to the treatment and care that his mother gave him, than to any particular skill on my part. I watched the case carefully. It was a well developed case of typhoid. There was peritonitis, delirium, and a high fever of 105 and a traction, which gradually came down. This boy was given a liberal diet. If there were two or three movements daily of the bowels I gave nothing to control it, but allowed the typhoid infection to be eliminated from the system, or, as Dr. Boggess has said, to be disposed of in that

way. This young boy hardly received any medication. A good deal depended upon the careful nursing which he received from his mother. That of frequent changing of the linen, the sponging, and watching him carefully. He was ill about the usual time, viz: practically six weeks. He made a very auspicious convalescence with the least medication I have ever given any patient with typhoid fever.

Gentlemen, I realize this is your association, and your meeting, and the discussions I have heard during the past two days as your guest, will be one more of the pleasant reminiscences I have to cherish regarding genuine southern hospitality. This is not my first visit to the southland. Indeed, I have visited practically all the larger cities of every southern state, attending a meeting of some scientific association, perhaps, and I always leave with regret that I could not prolong my visits.

I thank you again for this mark of appreciation on your part, or that of your President in calling upon me to voice what little I had to say upon this important general disease, typhoid fever, and regret that I could not state something that would have been of greater interest.

A. D. Willmoth, Louisville: Since the President has allowed the discussion to drift far enough to include treatment, I want to take just a few moments time to speak of two complications that are of extreme importance to those of you who do general practice.

Those of you who read the Kentucky State Journal will remember that some few weeks ago I had an article in there on the complications of typhoid fever in which I dealt with the points I expected to call attention to this afternoon.

The first point I wish to call your attention to is the condition of perforation which you all fear so much, and one in which the surgeon is called in consultation so frequently. There are a few points in regard to perforation which I think the average practitioner has overlooked and likewise the surgeon—at least, up to the present time.

We are all familiar with the classical symptoms laid down in the textbooks. The stabbing pain in the side I will not detail, because you are as familiar with it as I am, but just bear in mind this: the pain in the side is not due to perforation, but to a localized peritonitis, and the perforation has taken place several hours before the patient has had pain. What is the result? If you call in a surgeon in the case now you have got a general distribution of the poison over a large surface of the abdominal cavity. What does that mean? It means that if you had been on the alert and did not care to assume the responsibility and wished to call a surgeon in consultation, you would have made the diagnosis in the preperforated stage. I mean every word of that, and I am not speaking from a standpoint of my own, because an excellent article appeared in the *Annals of Surgery* from a surgeon con-

neeted with the Presbyterian Hospital of New York City along this line. If you take a patient in bed, brentling with his mouth open, and commence at the right side and pass the hand over the abdomen in the following manner, you will get a marked localized rigidity. This examination should be carried out as follows.

The patient should be lying out horizontally, with both knees drawn up. The position should be a comfortable one. The mouth should be slightly open, and the patient is told to breathe quietly. The arms should be at the side and extended; the head should be kept directly in the middle line and in a comfortable angle of flexion. The room in which the patient is examined should be warm, for a cool room may cause slight tremors in the abdominal muscles, which will prevent a satisfactory examination. The bladder should be empty.

The examiner whose hands have been warmed if necessary, stands on one side of the patient and first very quietly and gently palpates with the flat of the hand those portions of the abdomen in which the patient does not complain of pain, tenderness, or discomfort, then gradually passes over to the effected parts. This gentle preliminary procedure affords to the examiner a rough idea of the general condition of the abdominal contents as to tumors, swellings, amount of adipose, points of tenderness, etc., and serves to allay a possible apprehension on the part of the patient. The next step is to determine the presence of rigidity in any of the abdominal muscles. This is best done with the most sensitive organs at our disposal—the finger-tips of the right hand. If the examiner is left-handed, those of the left hand should be used. The wrist and the finger-joints are all kept slightly flexed, and a succession of short, but very delicate "pushes" is made with them over the muscle that is being tested. It requires numbers of examinations as a rule, for the beginner to acquire the ability to detect slight differences in the amount of rigidity present in different muscles or in the various positions of the same muscle; but the acquisition of this power is well worth infinite pains and patience on his part. The two sets of muscles which should be tested with special care for rigidity in typical patients are the recti and lateral abdominal muscles.

Owing to the usual preponderance of the dangerous ulcers in those coils of small intestines, that are commonly found in the right iliac fossa and right paraumbilical region, the right rectus and right lateral muscles should receive first attention. Taking into account the normal difference in muscle tone between the three segments of the rectus muscle, a preponderance of rigidity in any one of the three sections of the right rectus over that found in the corresponding section of the left is first to be noted. Then a rigidity of the right lateral muscle is sought for as compared with the same layer on the left side.

The amount of abdominal tenderness will depend on the condition existing in the abdomen, in those cases where the folds of gut are kept separated by a fluid exudate the tenderness will be slow in appearing and will of necessity be of mild form at least for several hours.

In the examination to elicit tenderness, extreme care should be used lest we should rupture a weakened bowel wall, remove protective lymph and disseminate infection over an area that nature has or will protect.

This localized rigidity and tenderness should be a sign board pointing you in the right direction. Sooner or later something will happen which nature is protecting in this board line way. Look out for that. Call a surgeon in consultation early because there is a better chance to operate and better results are achieved. The operation can be done under local anaesthesia by the hydrochlorate of quinine and urea.

The operation does not necessitate a general anesthetic and only requires a few minutes, usually about 10 to 15 minutes being all the time required.

A second complication you are all familiar with is that connected with the gall-bladder. Here, again, do we see typhoid infection spending its force in a virulent manner.

I am glad to see that one of the internists who preceded me referred to the administration of urotropin, because we know if there is any drug at all that does in a way sterilize the contents of the bladder it is urotropin, and it certainly acts as a most excellent preventive in guarding against infection in the gall-bladder, which later on might lead to acute cholecystitis or acute empyema of the gall-bladder. In these conditions where infection takes place and acute infection of the gall-bladder occurs, where there is tenderness in the region of the gall-bladder, with stiffness of the muscles, it is a surgical case. I take it, we do not want to take such a case alone, we do not want to shoulder the entire responsibility of the case because it is serious, but if you do not do surgery yourself, you should call in some one who does surgery as promptly as possible, because, sooner, or later, in all probability, there will be perforation of the gall-bladder. These cases are not inoperable, and to-day, any surgeon who refuses to operate for you when he sees the case early, even though there be a perforation of the gall-bladder, is a surgical coward, and no patient should be denied the chance of getting well from a prompt surgical operation where his gall-bladder is perforated. I have operated on many patients who seem to be in *extremis* from perforation of the gall-bladder and other complications, and you will be surprised to see how quickly these patients will rally with local anesthesia, or with a little general anesthesia you can rapidly go down on the gall-bladder and open it up, and drain it. You will

be surprised to see how quickly these patients, whom you consider dead, will rally.

J. S. Lock, Barbourville: I do not wish to say anything in particular regarding the treatment of these cases, for I heartily endorse everything that has been said; but I want to say in connection with the paper of Mr. Hansen, let us get at the beginning and prevent these troubles and we won't have the trouble of treating them after they develop. Let us try to prevent the spread of typhoid fever. You know it is said that you cannot teach an old dog new tricks. Let us go out in the country and in the rural districts where the children are not being taught by their parents the importance of cleanliness, are not being taught to take care of the discharges from these cases, and begin to bring them up. Let us as country doctors go to the country schools and talk to the children and educate them along the lines of sanitation. You will pardon me for referring to myself, but I have been all over my county this year and in most of the adjoining counties trying to teach them sanitation, and you will be surprised to know the number of children that will not take a drink of water unless they know where it comes from and they think that water is all right. You will be surprised to go back into the hills and see the number of children that carry individual drinking cups. They want to know about these things. You will be surprised to hear the little fellows instructing one another what they should do to take care of themselves, and they go home and the parents have come to me and told me in my office what the children have said. They say that the children have told them things they had never thought of. I think that is the primary step. Let us remember that and try and get these matters before the people before they contract typhoid fever. If we can prevent typhoid fever, why should we have it? Let us think along this line, and then if we get it, we can treat it, but let us not get it.

W. W. Anderson, Newport: One little thing we frequently overlook as a source of infection in the home and the spreading of that infection from one individual to another is—and I have noticed it quite frequently—the unfortunate habit of the mother of kissing her sick child. It is so obvious that this should not be done that we forget to mention it to the mother, and it is so natural for her to do it in the outburst of her affection for a sick child that it becomes a source of infection. Again, the little patient may refuse to take a glass of buttermilk. He may take a sip or two, and in order to show that it is good the mother will taste some of it herself, and I have seen infection spread in that way.

In regard to the treatment, one of the speakers referred to the use of phenacetin as an antipyretic. Undoubtedly, it will make the patient temporarily more comfortable, but I would file an objection to the use of remedies of that kind un-

less there be some clear indication that cannot be met in a simpler and better way. How often do we find in cases of typhoid, especially if the use of these remedies be prolonged, that the patient develops myocardial insufficiency, edema of the extremities, shortness of breath and a relaxed muscular tone lasting for a long time. Let us keep away from the coal tar products unless there is a clear indication for their use which cannot be met by something else which is safer, as, for instance, the cold baths.

One of the speakers referred to the difficulty of giving a cold bath because patients have not a bath tub. You do not need a bath tub. Sponging will be better in my judgment than a cold bath. You do not agitate the patient as you would by carrying him from room to room. I do not use a tub at all, although my patients sometimes have them.

Another drug that has been used, but I do not know whether it was mentioned or not, and that is alcohol. I believe that alcohol is always a narcotic, always a depressant in its effect and always harmful in typhoid fever cases.

I was very glad to hear Dr. Willmoth's suggestion with reference to perforation, and in connection with it he mentioned hemorrhage. If we will keep the abdomen free from distension by the use of castor oil, or by the use of intestinal antiseptics, and a favorite with me is boric acid, and use turpentine internally, externally and eternally, if necessary, the patient will be free from tympanites, and he is not so liable to have a serious hemorrhage or a perforation.

One of the essayists, if I understood him correctly, said that if you have hyperpyrexia you may get meningitis. If the patient has a hyperpyrexia he probably has meningitis. At least, you will find hyperpyrexia with the meningitis. Perhaps this is what he intended to say.

It has been my fortune to have treated 150 cases of typhoid fever ranging in age from five months to sixty years, with six deaths thus far. My treatment principally has been boric acid, ten grain doses every three hours in some digestive elixir, something to make it as palatable as possible, and for the sake of influencing the patient's mind and satisfying the taste, I use elixir pepsin at one time, and some other form of elixir the next time. It does the patient's mind good to see a change in the color of the bottle and to have a difference in taste to the tongue. That helps a little bit.

I am glad to have heard this whole subject gone over again because there is always something good in it.

Arthur T. McCormack, Bowling Green: I did not realize how old a physician I was until I listened to this learned discussion on typhoid fever. I am almost afraid to confess that I am using drugs in the treatment of typhoid fever. I would not make this confession if I had not been taught to use drugs in the treatment of this

disease by the late Dr. William Bailey, who administered them to me with beneficial results when I had it. I would like to say in passing that Dr. Bailey was one of the most beautiful characters I have known in medicine. I had typhoid fever myself, and was in my third relapse, and in the anxiety of my professional attendant Dr. Bailey was called in consultation. I was running a temperature between 103 and 105. I was very sick. Dr. Bailey wrote a prescription for me which I have used since that time and have given comfort to poor sufferers by its administration. This prescription consists of forty-eight grains of euquinine; forty-eight grains of phenacetin, and forty-eight grains of sodium sulphocarbolate. He made forty-eight capsules. I took one of them every two hours until I took them all within forty-eight hours. At the end of the forty-eight hours my temperature, which had been high, attended with delirium and uncomfortable nervous symptoms for five days, was reduced to 101, and it never went above that during the following three days of that illness. I continued to get along nicely and got well, as you see. I have had that experience in a number of cases of typhoid fever that I have seen early. They were true cases of typhoid fever. They were not cases of typhoid malarial fever, I do not believe there are such cases except in rare instances. I do not know whether there is a sufficiently strong inhibitory action in the quinin which acts on the development of the toxins or what it is, but in my hands that prescription has been satisfactory when given in the early stages of typhoid in fairly strong adults who were not liable to great depression. Following that first administration I have been in the habit of giving two grains of phenacetin, where the temperature was above 102 1-2. I have seen comparatively few typhoid cases that have required much other medication than that and the laxative, castor oil.

I was very much interested in reading an article by Dr. Cole, of the Rockefeller Institute, New York, on typhoid fever; but I do not believe that doctors have become useless in treating typhoid fever cases. I believe you and I are treating cases of typhoid fever every day and are relieving them. When we do not treat them the average death rate will be quite high. Fully ten per cent. of them will die, and I do not believe that ten per cent. of them should die. This is too great a mortality.

E. Bransom, Henderson: I am one of those physicians who believes that pretty nearly anything will cure typhoid fever, and I do not give very much medicine. In the last year or so I have been giving the yellow iodid of mercury in one hundredth grain doses, given three times a day, and have had good success with it. I have not lost more than one per cent. of the cases.

About fifteen years ago, when I was visiting the Polyclinic in Chicago, Dr. Smith was experi-

menting with baths, and while I was there he told me that he had treated one hundred cases of typhoid fever with baths, and ninety-eight out of the hundred recovered. One patient died within six hours after he was brought to the hospital; the other one died in twelve hours. He used absolutely nothing but water. He puts these patients in a large tub and turns the water on them, and the temperature would soon drop down to 101. He gave them no medicine. He said he had achieved just as good results without the use of medicine. As I have said, I have used very little medicine in the last year or so. I have used the yellow iodid of mercury in one-hundredth grain doses and have gotten splendid results. If these patients should have too much diarrhea, I correct it. The same thing holds true with regard to hemorrhage, and I correct it. But the ordinary cases of typhoid fever I allow to go on and resort to sponging for the excessive fever, and either this is done by the parents or by the nurse.

With reference to giving milk, I give sweet milk. I do not see any difference and believe they do as well on sweet milk as with other kinds of milk. I get good results with sweet milk.

S. L. Henry, Morganfield: When I began the practice of medicine more than thirty years ago, typhoid fever was quite prevalent in my section of the country. We had cases almost the year round. I kept a record of cases until I had treated more than four hundred, with only seven deaths. I think the cause of so much typhoid fever at that time, was due to the fact that the water supply was mostly from springs, and shallow wells. However, since our people have quit the use of spring water, and have resorted to deep wells, we have but very little typhoid fever. I think the most important part of typhoid fever, is the treatment, and the most important part of the treatment is rest. My plan is to let the patient rest as much as possible. I don't like to have my patient worried every little while about their temperature and pulse. I never put them in the cold bath, or use the cold pack. At the onset, I usually give a light purgative, I prefer calomel as it is both antiseptic and diuretic. I endorse the antiseptic treatment. Bismuth, salol, creasote, turpentine and the sulphocarbulates are all good, if used at the proper time. I have my patients sponged occasionally with tepid water to keep them in a sanitary condition. I also have them sponged with dilute alcohol, to make the skin firm, and keep it from breaking down. As typhoid fever is a self-limited disease, if we can keep the patient well nourished and give them plenty of rest, they will need but little medicine. As long as the temperature is below 103, I seldom give any medicine to reduce it. By trying to reduce the fever, we often weaken the patient. I have often seen patients that I thought were nursed to death. One kind of medicine given every two hours, another every two or three hours, and perhaps another every

three hours, with bathing and sponging between times, temperature and pulse to be taken every two or three hours with nourishment between times. When you come to figure it up, the patient gets perhaps thirty or forty minutes at a time for rest. Well these cases will all died, they are worried to death. We can take any man in this house put him on a low diet, and only allow half an hour or even an hour at a time for rest, and I don't believe he would live four weeks. I know I would not. As to nourishment I am partial to milk. If the bowels are inclined to be constipated I give buttermilk, if loose I give sweet milk. Sometimes I use lime water with it, and sometimes pepsin and I have good results.

V. A. Stille, Benton, (Closing the discussion on his part): I have very little further to say except to thank the gentlemen for their free discussion of my paper. I left out a good many things that were brought out in the discussion. Every case is a law unto itself. You may want to give one remedy at one time, and another remedy at another time.

In regard to the use of phenacetin as an antipyretic, of course, you want to give as small a dose of medicine as you can under these circumstances. You may give salol at one time, and bismuth or sulphocarbolate of sodium. But the case must be individualized and treated accordingly.

So far as typhnites is concerned, there is nothing to be compared with turpentine either internally or externally for the relief of it.

With reference to the diet, it should be liberal. There is no doubt about this. I am not particularly in favor of any form of milk, but if I should, I prefer buttermilk. I use soups of all kinds.

The last speaker spoke of the importance of not worrying these patients by giving them too much medication. We should give them medicines that are as nearly compatible as possible, let the patient rest, and keep the other members of the family from having typhoid fever.

Paul Hansen, Bowling Green, (Closing the discussion): The trend of the discussion on these papers has been somewhat outside of my province as a sanitary engineer, in that it has dealt with the cure of typhoid fever cases rather than with the prevention of typhoid infection. However, it has been extremely interesting to me, and I have learned in a general way how complex and absorbing this great subject is, and it suggests an explanation to my mind of the rather frequent neglect on the part of the medical profession with reference to preventive measures.

Sanitarians and sanitary engineers have had occasion to feel some disappointment over the manner in which projects for water purification and sewerage installation have been received by physicians. They have not only failed to make intelligent inquiry into the character of these projects, but generally neglected to back up such projects with the force of their approval.

It is a well known fact that the people in general will listen to the advice of their physicians far more quickly than they will listen to the advice of sanitarians or sanitary engineers, and after all it is only through the assistance of practicing physicians that sanitarians and sanitary engineers can carry out the work in which they are specialists. It is only rarely that a sanitary engineer has the opportunity to place his views clearly before the people directly, so that it is nearly always necessary for him to count upon the helpful mediation of physicians.

There are some instances in which physicians, though well meaning and demanding sanitary improvement where such improvement is necessary, have nevertheless blocked direct progress by assuming too great a knowledge of subjects in which they are not specialists. A striking instance of this occurred in Washington, D. C., where a Commission of expert sanitary engineers recommended a form of filtration for the water supply which is now successfully in use in Louisville, Cincinnati and many other large American cities, as most economical and at the same time thoroughly efficient. It developed, however, that this method involved the use of alum as a coagulant, and immediately a storm of protest went up from the physicians of the city against the use of this chemical, on the grounds that it was detrimental to health. Had they made proper inquiry they would have been apprised of the fact that the alum is used in such a way that absolutely none of it can enter the filtered water and moreover the quantities used are so minute that even supposing the whole of it went into the filtered water there would be no injurious results to the health of the community. Nevertheless, the protest of the physicians was so strong and carried such weight with the public that the engineers were obliged to accede to their demands and put in another form of filtration, which was recognized by the engineers as not being adaptable to Potomac River water. Not only that, but the filtration plant finally adopted cost the Government more than \$1,000,000 more for original construction than would the plant recommended by the engineers. As might have been anticipated, the filtration plant finally installed failed to give entirely satisfactory results and it became ultimately necessary to precede filtration by treatment with alum after all. The physicians perceiving their error after the damage had been done, were manly enough, however, to rescind their former action and place themselves on record as having no objection to the use of alum when properly applied.

The work of the sanitarian is quite as distinct and complex a profession as the practice of medicine and the same is true of the profession of sanitary engineering. The physicians should try to understand the work that men in these professions are doing, without necessarily going into the technical details or other minutiae of the

work, and they should stand ready to support the efforts of sanitarians and sanitary engineers, for without such support but little progress can be made along the lines of improving the public health conditions.

DIFFERENTIAL DIAGNOSIS BETWEEN GLAUCOMA, IRITIS AND CONJUNCTIVITIS.*

By H. G. REYNOLDS, Paducah.

In assigning subjects our secretary has unfortunately for me, and I might add also for you, given me one which is not only old but one to which very little of recent knowledge has been added. This fact, however, does not detract from the importance of the subject.

It would seem that the symptoms of these three diseases and their characteristic differential points would be sufficient to make a definite diagnosis in any one of them, and in the majority of the cases it is, but too frequently we have, especially in glaucoma, overlooked and in many cases wrongly diagnosed by the general physician as neuralgia, stomach trouble, etc., and treatment too long delayed to do for the patient that thing which will prevent almost certain blindness.

In differentiating between iritis and glaucoma we will first consider the symptoms that are more or less common to both diseases in a typical case.

Pain is usually common to both and, is in these as well as in all diseases when present, one of the most important symptoms.

In iritis the pain is more intense at night whereas in glaucoma it is not necessarily nocturnal but may be so intense as to cause nausea and vomiting.

Increased tension a constant symptom of glaucoma and causing all of the other symptoms may be an accompaniment of iritis or may be produced by iritic adhesions.

A patient of this type makes for the doctor a case which is a trial and tribulation as to treatment.

As an iritis with increased tension and intense pain may present to the internist a case difficult of diagnosis, and, in two diseases where a mistake in using atropin in the one may prove destructive and, a failure to use it in the other cause a loss of very valuable time and cripple an eye the importance of absolutely differentiating between them is apparent.

Fortunately the shape and size of the pupil, and depth of the anterior chamber are to be relied on and, deposits on the posterior surface of the cornea or the age and history of the case, the integrity of the field of vision

are usually sufficient symptoms to make a diagnosis.

The deposit on the cornea while not constant yet when seen with other characteristic symptoms indicate iritis.

I might mention here that it is often difficult to determine where an iritis merges into a cystitis or differentiate between the two, and although our subject deals only with iritis it is impossible to entirely separate them.

The chief symptoms, as I have mentioned, in all forms of iritis is pain especially at night, along with this we have intolerance of light, impairment of sight, pericorneal injection, iris discoloration, turbidity of the aqueous, irregularity of the pupil, general malaise and often a characteristic odor of the breath. While these are symptoms typical of a case of acute iritis we may have a form where Atropin instead of giving the customary relief from pain causes instead increased tension, intensification of the pain, edema of the upper lid, somewhat clouding the diagnosis.

A symptom I would like to emphasize and, which is characteristic in acute iritis, is the odor of the breath. The attention of the doctor is often called to the iris by this symptom of the trouble even before a thorough examination of the eye is made.

The depth of the anterior chamber, anaesthesia of the cornea, dilated pupil and above all increase in tension, accompanied with intense constant pain, with halo around the light presents to us a typical case of glaucoma.

The ordinary method of taking the tension of making pressure with fore finger of both hands is practical and in experienced hands is effective. With the tonometer I have had no experience.

Cupping of the optic disc while a valuable symptom in diagnosing glaucoma is not always available because of the obscuration of the fundus. A pathological cupping of the nerve and arterial pulsation either may exist with less serious effects, but this combination is pathognomonic of glaucoma.

The differentiating of conjunctivitis from the other two diseases can be made by considering the presence of superficial and deep congestion of the conjunctiva, depth of the anterior chamber, color of the iris, reaction of the pupil to light, convergence, and accommodation, also the condition of the media, fundus and tension.

In referring to iritis I have purposely referred to the disease in a general way because although the symptoms vary somewhat according to the character and intensity of the inflammation but on the whole are rather constant.

*Read before the Kentucky State Medical Association, Paducah.

I have referred to acute and sub-acute glaucoma because I do not think it possible to confound any other form of the disease with iritis or conjunctivitis.

DISCUSSION.

Adolph O. Pfingst, Louisville: It seems to me in considering the differential diagnosis of these diseases of the eye there is one point that ought to be emphasized before a body of general practitioners, and that is, to observe more closely the condition of the pupils. That is the first thing we notice, particularly those of us who have seen a good deal of the eye. We see at once whether there is good reaction to light, whether the pupils are round or irregular, etc. The specialist sees all of this almost instinctively. If we watch more carefully the condition of the pupils, there is no reason why a case of conjunctivitis should be confounded with iritis or glaucoma. In a case of conjunctivitis you have a clear anterior chamber, and clear cornea, and as soon as light is thrown into the eye you have rapidly reacting pupils, unless bound down by old adhesions. I do not see how one could mistake this for one of the other two conditions.

As to iritis and glaucoma, we should hardly confound these two affections where we have pronounced symptoms, such as wide pupil, increased tension, etc. However, we do have trouble sometimes in differentiating an acute glaucoma from an iritis where symptoms are not pronounced. The wide rigid pupil, hazy cornea, increased tension and possibly the nasal limitation of the field of vision, and the nature of the pericorneal redness would be distinguishing features of glaucoma, and the discolored iris, constricted pupil and tendency to posterior synechia, and the absence of the glaucomatous symptoms would be indicative of iritis. The pain of iritis, which is nearly always worse at night, is usually not as severe as in the acute attacks of glaucoma.

I cannot refrain from saying a few words about the optometrists. While we recognize the need of opticians who stand in the same relation with the oculist as the pharmacist does to the practitioner, we must not confuse these with the traveling optician who is endeavoring to invade the domain of medicine. The optometrist without any preliminary education in medicine are demanding the same privilege of treating diseases of the eye as a specialist who has devoted four years to the study of general medicine before equipping himself for his specialty. Where is the justice of this? And it is the very thing that the optometrists are trying to accomplish by an act of our legislature. Every practitioner should understand the situation and help defeat such a measure. I believe too that more practitioners should equip themselves for taking care of simple refraction and thereby do away with

the necessity of their people consulting men not equipped for the work they claim to do.

I have always argued that opticians do not so much harm our people by what they do to them, but assuring the patient that glasses will relieve them, they lose for the patient valuable time before he realizes that he should have consulted someone who could judge of the condition of the eyes.

Take a case of chronic glaucoma, with nothing but a sluggish pupil to denote a diseased eye. The inexperienced simply see if they can fit a pair of glasses, and are satisfied if they get two-thirds vision without knowing the cause of it. When a patient has less than normal vision, we ought to find the cause of it. If the vision can not be brought to normal, we can by seeing inside the eye, look for pathological condition and determine the cause of it.

These remarks are a little foreign to the paper, but I could not help saying a word on this subject at this time, and I hope that Dr. Hall will be allowed to speak of this subject.

D. M. Griffith, Owensboro: I do not believe you can teach anybody to differentiate between glaucoma and iritis and eliminate conjunctivitis by any rule of reason. You must have, as Dr. Pfingst has told us, that large knowledge which can only come from experience. The inspection of the iritis is of particular importance in differentiating these diseases; but there are some things we see intuitively. When we see a case, if we have had a large experience, we can generally intelligently classify it and tell whether it is glaucoma or iritis. Glaucoma, iritis, and conjunctivitis, as Dr. Reynolds has told us, are quite common; but there is something that is characteristic of each affection. For instance, iritis is attended with a boring, bearing down pain; while glaucoma is attended with a fierce, tense and lancinating sort of pain. On the other hand, conjunctivitis is accompanied with a rather burning sort of pain.

I believe the general practitioner ought to be exceedingly cautious about ever prescribing anything which would tend in the slightest or least possible manner to increase tension because he incurs the risk or danger of precipitating a case of glaucoma in a condition that he cannot detect. Sometimes even specialists are mistaken. We specialists have seen some sad sights following the use of drugs used in the eye. I recall one case in which I removed both eyes from a lady, sixty years of age. She was a charming, fascinating woman. One of the best general practitioners in the State of Kentucky had prescribed atropin and produced glaucoma. After his death another physician saw this woman and said she had glaucoma in the other eye. I enucleated both eyes. This one experience ought to be sufficient to warn any man, who has not had great experience, in prescribing a mydriatic or cycloplegic under any condition. As Dr.

Pfingst has said, it is little or no trouble to the man of experience, whether he be a specialist or general practitioner, to make a differential diagnosis between these diseases of the eye, but unless he has had that experience, he is like a man fooling with dynamite and may destroy the sight of the patient, and the most important thing we can say to the general practitioner is that, if there is one iota of doubt, he should call in some man who has had that experience.

Gaylord C. Hall, Louisville: I have enjoyed Dr. Reynold's paper very much. He has handled a trite subject in a masterly manner. There is very little to add to what he has said except that I would like to qualify his statements in one respect, and that is the great difficulty we have in differentiating these diseases in **mild cases**. It is easy enough if we have a fulminating case of conjunctivitis, with a profuse purulent discharge, to recognize it. If we have an acute attack of glaucoma, with entire absence of vision, with widely dilated pupil, and a very hard eyeball, and absence of the anterior chamber, it is easy to diagnose that condition. If we have, on the other hand, an acute attack of iritis, with a pin-point pupil, with discoloration of the iris, with an acute pain which comes on and is worst at night, it is easy to diagnose that. It is in the mild cases that difficulty in diagnosis presents itself. Where there is some photophobia, as there is in all cases, where the eye is sensitive, and the redness is not so intense, it is difficult to differentiate between conjunctivitis and ciliary injection.

In addition to the three diseases the doctor took up, some of the mild cases of the obscure forms of keratitis are quite difficult to differentiate from iritis, because in both of them you have symptoms which are most prominent. First, photophobia; second, a discharge, not of purulent material or of mucus, but of tears, and you also have in such cases a contracted pupil. Unless you get illumination and carefully examine the pupil, you may fall down on the differential diagnosis, not that it makes a great difference in that particular instance, but sometimes it is difficult to put your finger on whether it is a beginning keratitis or an iritis. In such a case atropin would be indicated immediately. There is where we have no doubt of the differentiation between glaucoma and iritis. The attention of the general practitioner should be called to the fact that one of the most prominent symptoms of glaucoma is increased intraocular tension; consequently, the first thing a man would think of in making an examination would be to palpate the eyeball through the upper lid, and it is well known to those of us who handle many of these cases that there is a tender spot in cases of iritis at this point, and that if you palpate or attempt to do so through the upper lid to see whether the eyeball has increased tension or not, the patient will flinch nearly every time.

This spot of tenderness was described at first by a French writer. It is quite characteristic. In taking the tension in cases of iritis, you will find intense pain when you palpate, which is due to congestion of the ciliary body which must not be mistaken for the hardened eyeball of glaucoma.

James H. Lackey, Canton: I am a general practitioner. Some one has remarked that the general practitioner needed more information that he usually has on the subject of the eye, and I am very much obliged to the gentlemen for their discussion. During an experience extending over forty years I have met with all kinds of sore eyes or eye diseases. I remember once a young man came to me with the eye closed very hard, and it took both of my fingers and all the strength I had to open the eye. After a few days' treatment he decided that I could not do anything for him, and he thought he would go to Hot Springs, Arkansas. He decided to go there, but I advised him to go to Louisville to a friend of mine. He started, was gone four or five days, and returned rather more hurriedly than I had expected. I said to him, "Well, John, how did you come out with your eye?" He replied, "It is all right. I started for Louisville and when I got to Clarksville I never thought anything more about my eye. When I got to Louisville I thought about the address you gave me, and come to find out my eye was wide open because I had never been out of the county and found use for it and began to use it." (Laughter).

That is a little bit of experience. I did not get up to talk on the subject of the eye.

Dr. Pfingst, of Louisville, spoke of a subject that I know a little something about. I had the honor of being appointed chairman of the Committee on Public Health and am familiar with the work done in the last session of the legislature. Most of you know that these optometrists have been trying to pass a certain bill, and they have been the most persistent, anxious, eager men I have had to contend with. I take the position that Dr. Pfingst does, namely, that they know nothing about fitting glasses properly, and every person that needs glasses should be placed in the hands of an eye specialist. Of course, that is not possible always, and the objection I have to the optometrists is the fact that they are making another trust for us. I am against the trust always, and hence, when we came to report the bill back I said I would like to make a talk on the subject, and by way of information for the legislature I had occasion to say all I could possibly against the bill. I had the honor or dishonor of trying to defeat the bill. We relegated it to oblivion so far as we are concerned. I hope you gentlemen will use your influence to have the bill defeated when it comes up in the next legislature.

Arthur T. McCormack, Bowling Green: Dr.

Pfingst has opened up a subject that should properly come before the House of Delegates but it is one of such extreme importance that I think it might be well to discuss it more fully here because it is a matter entirely of education of laymen. It is a matter about which the profession is already informed, but there is a real danger to every man with diseased eyes in the State of Kentucky right now, or who will be in the State of Kentucky in the future.

In a number of states a mistake has been made of permitting the optometrists, that is, the jewelers and others to fit and sell glasses by simply testing vision, trying glasses on, until they find a pair that makes the man see better than he did without them, and licensing them to treat diseases of the eye. Now, we have to be specialists, and I fully agree with the gentlemen in that respect, to differentiate between certain diseases of the eye. I always like to hear papers of the character read by Dr. Reynolds, because the simplicity with which he, Dr. Pfingst, Dr. Griffith, or Dr. Hall can make a diagnosis in these conditions, the ease with which they can do it from their description but emphasizes our incompetency to do it. I listen to such men with reverence because, while I was prepared as you all were in an elementary way to take up and treat these conditions, I know I cannot do it. I know I have had more training than all the optometrists in Kentucky put together in making differential diagnosis of diseases of the eye, and if I am unable to do that, then I am quite confident they are. If we can say that to our legislators, they will be just as anxious as we are to have the right thing done. They want to do the best they can; they want to do what is best for the people of the State. Many of our legislators go to Frankfort without knowing a thing about this. There is not a doctor in the State that does not know about it, but very few of our physicians think of the optometrists, and when our legislature is in session at Frankfort there will be these persistent, smooth, commercial lot of men who are making money out of it, who are selling glasses for profit, who go to the members of the legislature and appeal to them with every argument against physicians and present every argument in favor of the passage of such a bill as they want to put through. We cannot always have such men as Dr. Lackey present. I am sure, if the legislature was composed entirely of doctors he would be elected a representative for life. But some member of the legislature has to defend the people of the State. If half of the members here when they go home will see the man that is going to be elected to the next session of the legislature, no matter whether he be a Democrat or Republican, and talk to him for five minutes about such pernicious legislation, he can give that legislator more instruction in five minutes than he could learn in a year after he gets to Frankfort. He has confidence in you, hence

do not deceive him about the matter. He knows you have no more commercial interest in the thing than he has, and if you will instruct him on that point you can do much good for your people in this very important matter.

Dr. Hall has investigated the fight that has been made in every state. There is an article by him in the current issue of our JOURNAL. If it is the wish of the members he will continue to write additional articles on the subject, so that the profession and laymen of the State can be instructed in regard to this matter.

The Federation of Women's Clubs has appointed a strong committee to take action in this matter. They understand the importance of it. They have been in the mountains and have seen people made blind by improper treatment. They have seen cases of trachoma treated by putting tin spectacles on people and calling them gold. They have seen case after case of blindness in which the traveling opticians have sold perfectly plain glasses and have put rose water into the eyes, and they ask that this condition be legalized. It is an insult to the intelligence of any body of men that they should ask their approval of such a bill. Members of the legislature do not know anything about this matter beforehand, but when they go to Frankfort they should be properly instructed, because there is no more important health proposition before the people of the State to-day than this.

W. W. Richmond, Clinton: I know but very little about the diseases of the eye, notwithstanding, as Dr. McCormack has said of himself, in my early training I had the preliminary qualifications about as good as most practitioners to begin with.

Forty years ago specialists, in Kentucky, were not so numerous as they are now. There were one or two in Louisville and perhaps the same number in Lexington and none in any other part of the State.

There was an ignorant class of men who traveled through the country claiming to be specialists, who pretended to treat the eyes, and who sold spectacles; a class of men similar to those are clamoring for legislation to permit them to do the same thing now.

The general practitioners treated diseases of the eye, and considering his opportunity, succeeded fairly well. I remember quite distinctly when my preceptor, the late Dr. Geo. Beeler, of Clinton, Ky., who was a general practitioner of medicine, treated diseases of the eye, and also did some successful operations upon the eye, notably iridectomy and operations for cataract, entropion, ectopion, etc.

I remember upon one occasion he operated upon a lady eighty years old for cataract, and after the operation she was enabled to read the finest print of a newspaper. I assisted Dr. Beeler in many of these operations. In some of them the operations were done in log cabins

poorly lighted; on one occasion we climbed upon the roof of the house and took a part of the roof off in order to get sufficient light in which to do the operation. It was a rare opportunity for me, as Dr. Beeler's assistant, which enabled me to treat many diseases of the eye successfully.

I want to compliment Dr. Reynolds' paper; it is both scientific and practical—a paper that the general practitioner can appreciate as well as the specialist.

In conclusion allow me to say that I heartily accord with Dr. McCormack in his suggestion in reference to legislation. When we go home we should have a talk with our prospective representatives; we should explain to them the importance of the legislation we need, show them that all the legislation that the doctors want is directly in the interest of the people, bring to bear, the influence of all the doctors in the district, upon the representative, and the chances are he will get right and stay right. If there was a representative in every district in the State such as we have in the First—my district—we could have any bill passed in the legislature we would want. I refer to the Hon. W. J. Jackson, of Hickman county. He is the representative of the First District in the State for the third time. He was elected each time, largely through the influence of the doctors. He is the doctors' friend. By the combined influence of the doctors they could elect the representative from every district in the State. Let's try it.

James S. Lock, Barhousville: The condition in the mountains has been referred to. We have two men in our section of the country who make it a business of going through our country once a month or every two or three months, especially on court days, and reap a harvest. They are deadbeats, and they are ruining the eyes of the people. We have no way to get at them. We cannot do anything. My patients come to me and talk about the condition of their eyes and ask me questions about these men. They have been to their houses and have probably told them that they have some trouble with their eyes. They will go to the houses of these people and sit there for hours and plead with them to buy glasses. We ought to have some way by which we could get at these people and stop them from doing this. I am a member of the council in my own town and I shall try to do what I can. I had a license of five dollars a day placed on these men, but they rebelled against it. We ought to have some way to put these men out of business. I would like to see some sort of legislation enacted that would prevent them from doing this. I want to say, we from our district think we will send a doctor to the Senate. If we do, you can count on him. As to our representative, I have been at work with him, and by the time he gets to the legislature we can count on him. I regret very much to say that there are some doctors who will stoop so low as

to take these men in with them for the purpose of getting a commission on the sales they make or for rent of the office while they are with them. They will take them in and aid them in this imposition. I think we ought to wake up, and if a doctor does that kind of thing, we ought to see to it that he does not do it. We ought to go to him and talk to him as a brother and show that he has more commercialism in his makeup than good sense for practice. We should tell him that he is doing wrong. Let us educate the people. If we cannot do it by legislation, we ought to educate them to let these men alone and show them that it is a disadvantage to them, and not lead them to believe we are advising against this for some gain we may get ourselves.

M. M. Moss, Franklin: From a legislative standpoint, our representative and senator are both my personal friends. I have talked to these men along the lines that have been indicated, and I can say that both of them are men of sound mind and good heart, and they are heartily in favor of any legislation for the protection of the people of Kentucky from these troubles. In talking with our representatives and instructing them what to do in regard to such a matter as this it is very hard to disabuse the mind of the average legislator that we are not legislating in the interest of the doctor instead of the people. If we can get that idea out of their heads and get into their minds that this legislation which we propose is for the interest of the people of Kentucky and against the interest of the doctor, I believe we could get such legislation through as we may desire without much trouble. So far as our representative and senator are concerned, they are right on all propositions.

Gaylord C. Hall, Louisville: There are certain things which ought to be emphasized. I am delighted personally to find out that the profession of Kentucky is so widely awake to this thing. From the large amount of correspondence I have had there were some men who fought this thing very bitterly. In Pennsylvania they defeated such legislation, and in Massachusetts they were likewise successful. In New York they have been unsuccessful. One reason why this law was passed was on account of the apathy of the general profession. You could not make them see that they had anything to do with such a bill. The result of it was there were three or four who did the work. They went to the state senate and pleaded their cause. They had three hundred opticians who simply turned everything they could upside down to have the bill passed. The bill passed because there were three hundred against three. That is the whole proposition. If we want a bill passed to protect the people of the state, we must put forth every effort to have it done. Let us see what they did in New York. They got the endorsement of seven hundred regular general physicians for this bill. They went

to the physicians and said to them, You have a lot of traveling vendors of spectacles going around throughout the state and injuring people's eyes and selling glasses irrespective of whether they need glasses or not. If you give us your endorsement, we will have a Board of Optometry appointed, and this board will pass upon the qualifications of the men and we will run the fellows who cannot pass the examination out of business. But they did not do it. A Board of Optometry was appointed, but these men have very few restrictions.

Optometry bills have been introduced and passed the legislatures of twenty-four states in the Union, and it has been the unanimous opinion that latterly the board has become lax and they would license anybody that wanted a license irrespective of the qualifications and training. Of course, you understand, if this bill passes, you cannot restrict those fellows who are already in practice. They will get the right without any examination. The proposition is simple: we have got to keep awake on this thing and must not be led into signing or endorsing a bill by false promises of this kind, working for it with the idea they are going to run out of business the traveling opticians. These men do not want the right to sell spectacles. They do that now. What they want is the right to treat diseases of the eye without ever having passed a medical examination or without having any of the qualifications to prove that they are competent to treat diseases of the eye. The optometry boards of most states ask medical questions about the anatomy of the eye, the nerve supply of the eye, what is conjunctivitis, what is glaucoma, and how to differentiate these conditions from cataract. What is the difference between glaucoma and iritis. All these things are purely medical questions, and should have no possible relationship to the fitting of glasses. So you see this is a covert attempt to invade the field of medicine without medical education.

Another evidence of their insincerity is that they do not want to be licensed as opticians. They are opticians now and probably have legal licenses. They have coined the word optometrist. In New York State they claim that a person who has a state certificate as an optometrist is better able to examine the eyes than the doctors themselves, and several of these fellows have appeared before the Board of Education, when the question of school inspection came up, and said, "Look here, why are you letting doctors examine the eyes of the school children? We are the men to do this work. We know better how to examine the eyes than these doctors do."

The remarkable part of the affair is that the governor signed that bill. They pleaded it before Governor Hughes, and he signed it over the protest of the members of the New York Academy of Ophthalmology.

In Colorado last year Dr. Edward Jackson de-

feated the Optometry Bill by tacking a rider on it, and this rider was nothing except a simple statement of facts defining an optician of this kind honestly and sincerely and squarely, and every man who had been fighting for the Optometry Bill dropped it like a hot cake. He put in an amendment to the effect that nothing in the provisions of this act shall be construed to give the right to any man to use the title of Doctor of Optometry, Doctor of Ophthalmology, D. O., or any other symbol or title, which would lead him to deceive the people that he was other than a licensed optician, giving him no power to use medicine in the treatment of diseases of the eye or to do anything except sell glasses. That rider killed the bill. They got it through the legislature and they had it up for signing, but they dropped it.

In Ohio they got it through both branches of the legislature, but by an earnest appeal on the part of the physicians of Cincinnati, they got Governor Harmon to veto this bill.

Governor Deneen summed up the question when he vetoed the bill in Illinois by pointing out, as is a well known fact, that fully ninety per cent. of the errors of refraction cannot be successfully corrected without the use of a cycloplegic, and there are a great many cases over forty years of age that require oculists of considerable experience before they are able to make a diagnosis of an error of refraction. Governor Deneen said that inasmuch as a cycloplegic was necessary to correct an error of refraction, he could not see why one should give a class of persons the right to do a thing when you denied them the right to use what is necessary for its proper accomplishment (a cycloplegia), and therefore he vetoed the bill.

We intend to bring this matter before the House of Delegates of this association with a view to having a resolution passed condemning this proposed legislation, because it is certainly going to come up. We ought to condemn it in the strongest terms we can use. We should not only condemn it among ourselves but pledge ourselves to go out and work against it, as Dr. Richmond and others have suggested. We should have a resolution sent to every prospective legislator in the State and to the Governor and work continuously to defeat such pernicious legislation.

In conclusion, I want to say that one year is not going to kill it. We have got to keep fighting it.

J. W. Pryor, Lexington: I feel I should say something on this subject because I had some experience in the last legislature with reference to the optometry bill. While I did not take much part in opposing the bill, I know one man who killed that bill, and I think that I should state this to the association, and that man is Dr. J. N. McCormack. (Applause). When the bill was in very great danger of being passed, it was

through his efforts and almost singlehanded that the bill was defeated. He did not have the support of the medical profession nor the support of those who should have given it to him, and the profession did not get back of him as it should have done. Dr. McCormack made some enemies, and came near losing the State Board of Health Bill by it, but through the efforts of a few of us this was corrected. I feel like making that statement to the association.

Louis P. Baltzer, Hickman: I would like to make an explanation to the general practitioner. I suppose a great many of them know, anyway, why we dilate the pupil in young people. It is done for the purpose of overcoming the ciliary muscle or muscle of accommodation.

What does the ciliary muscle do when it contracts? It simply makes the crystalline lens thicker and of course when you change the thickness of this lens it changes the refraction. In young people we generally use Homatropin to paralyze the muscle of accommodation; of course in old people we do not have to use a cycloplegic. You can take most any child with a normal or emmetropic eye and place a minus or near-sighted lens in front of his eye and he will say he can see nicely. Why? Because this minus lens causes a spasm of the muscle of accommodation.

Now if you let the child continue to look through this same lens for a while he will complain of his eye paining him, etc., simply because the muscle of accommodation has been over exerting itself and finally tires. It is nothing unusual for an oculist to run across these cases of young people, who are wearing minus or near-sighted lenses, when they should be using far-sighted or over-sighted lenses.

COUNTY SOCIETY REPORTS

Bell—The Bell County Medical Society held its regular meeting December 8, 1911, at the office of Dr. C. K. Brosheer.

The following members were present: L. L. Robertson, T. H. Curd, W. K. Evans, T. J. Evans, J. P. Edmonds, U. G. Brummett, J. R. Tinsley, C. K. Brashear, T. T. Gibson, of Middlesboro; Ed. Wilson, W. T. Flanagan, J. G. Foley, J. S. Bingham, of Pineville; R. E. Gianinni, O. P. Nuckols, Straight Creek; J. W. Fitzpatrick, Bosworth; F. D. Haston, of Arjay; P. E. Gianinni, Dorothy; J. H. S. Morrison, R. F. Patterson, Cumberland Gap, Tenn.; J. M. Hunnellton, Shawnee, Tenn.; E. N. Harrison, Fork Ridge, Tenn.; J. H. Hendren, Cory; C. L. Clayton, Tejoy, Ky.; L. H. Boone, Day, Ky.; Jacob Schultz, Ligon, Ky.; N. H. Stone, Eagleville, Tenn.; Visitors, Dr. Pennington, Dr. Lock, Barbourville; Dr. Fronisco, Athen, Tenn., Emith Ely.

This being the last meeting of the year our retiring President, C. K. Brosheer, presented the

society with a dinner that is second to none, composed of quail, turkey, salads and a number of other things too numerous to mention, and all expressed themselves as being for Brosheer for President in 1912, but he declined the second term.

The house was called to order by President C. K. Brosheer, this being the business meeting for the year there were no clinical cases nor papers prepared.

A committee was appointed by the President, composed of F. D. Haston, Jacob Schultz, J. G. Foley, for the purpose of drawing up resolutions suggesting some method of remedying the plan upon which contract practice is carried on in the country, hoping to get it on a prescription basis.

Report of the Committee on Medical Examination of School Children in Bell county, carried over. This committee is composed of Drs. Robertson, Edmonds and Brosheer.

Report of the Committee on County and Municipal Practice, carried over.

B. E. Gianinni, Straight Creek, P. E. Gianinni, Dorothy, transferred from Whitley county as members of our society.

N. H. Stone, Eagleville, Tenn., elected member of our society, after being reported favorably by the Board of Censors.

Motion made and carried that the Secretary get in communication with the Anti-Tuberculosis Association of Louisville in regard to the Anti-Tuberculosis car visiting this city under the auspices of the Civic Club through the medical society.

J. H. Hendron, of Cory, elected President for 1912; W. K. Evans, Middlesboro, Vice President; O. P. Nuckols, Pineville, Secretary; U. G. Brummett, Treasurer; Jacob Schultz, Member Board of Censors for three years.

Our efforts this year have been to get every legal practicing physician in the county a member of our society, and the results of our efforts are an increase from 26 in 1910 to 41 on our roll at the present time, leaving five non-members yet in the county, all of whom have expressed themselves as intending to join us. We regret to close the year without them on our roll.

The society adjourned to meet in Pineville, January 12, 1912, with the new officers presiding.

T. T. GIBSON, Secretary.

Carlisle—The Carlisle County Medical Society met at Bardwell, December 5, 1911, with President Lamkin in the chair.

Members present: G. W. Payne, T. T. Crouch, R. C. Burrow, T. J. Marshall, C. D. Shelbourne, T. L. Lamkin, W. Z. Jackson, Jno. R. Owen, J. F. Dunn, W. L. Mosby and Wm. Graves.

T. J. Marshall read a paper on "Acute Tonsillitis." It was a practical and up-to-date paper. He favored the use of salicylates in most all cases.

W. Z. Jackson and **J. F. Dunn** favored the use of nitrate of silver solution to the tonsils.

G. W. Payne punctures the tonsils in several places with a sharp lance. He also makes applications of tannate of glycerine.

H. T. Crouch, **T. L. Lamkin** and **Wm. Graves** took an active part in the discussion, which was closed by **T. J. Marshall**.

The next on the program was **W. Z. Jackson's** paper on "The Care of Premature Children." It was a very instructive paper. He emphasized three points, viz: First, Uniform temperature; Second, Proper nutrition; Third, Amount of handling, which should be reduced to a minimum. He also believes in every instance you should wait till cord ceases to pulsate before ligating. He reported a case of twins born at six and a half months, weighing four pounds each. Mothers didn't have any milk. Kept temperature under the cover at 90-95 degrees, fed on Eagle Brand condensed milk, comparatively no handling and careful nursing. One of them died in about three months. The other living and doing well and is about six months of age.

The society adjourned for dinner.

Reassembled at 1:30 o'clock and after a free discussion of Dr. Jackson's paper, was closed by the writer.

W. L. Mosby read an interesting paper on "Uterine Displacements." It was ably discussed by most all present.

R. C. Burrow recommended vaginal tampons soaked in salts-water and glycerine, which he thinks will remove the engorgement of uterus.

C. D. Shelbourne says berberine sulphate in 1-6 grain doses will remove the enlargement of the womb.

As Dr. Mosby had to leave, Dr. Crouch closed the discussion, and recommended pregnancy.

Last but not least was **President Lamkin's** farewell address. "The Prophylaxis of Specific Diseases by Legislation." He is highly in favor of quarantining. The paper was well prepared and contained some real important points, which will appear in the State Journal. There was a unanimous vote to have his paper published in the county paper, giving the editor the right to change certain phrases as would be suitable for the public to read.

By order of the society, we will meet monthly in the future.

Election of officers resulted as follows: President, **T. J. Marshall**; Vice President, **C. D. Shelbourne**; Secretary, **J. F. Dunn**; Treasurer, **W. Z. Jackson**; Censor, **W. E. Gholson**.

After installation, **R. C. Burrow** was elected Delegate to the State Meeting.

The next meeting will be held at Arlington, on the 2nd of January, 1912.

J. F. DUNN, Secretary.

Christian—The Christian County Medical Society met in the City Courtroom, Hopkinsville,

Ky., Tuesday, December 19th, 1911, with President Wright in the chair.

The members present were **O. E. Wright**, **J. L. Barker**, **J. W. Harned**, **F. M. Stites**, **F. H. Bassett**, **O. L. Barnes**, **G. W. Lacy**, **S. H. Williams**, **T. W. Perkins**, **B. A. Caudle**, **J. Paul Keith**, **Austin Bell**, **E. L. Gates**, **H. C. Beazley**, **A. H. Edwards**, **W. A. Lackey**, **D. H. Erkiletian**, **J. H. Rice** and **W. S. Sandbach**, and **Walter Bartlett**, of Elkton.

The minutes of the last meeting were read and approved.

J. H. Rice and **Walter Bartlett** presented a very interesting clinical case, which was examined and discussed by nearly every one present. The diagnosis was at question, but finally decided it was specific and "606" was advised. The doctors are to report at the next meeting.

This being the business meeting of the year, the following officers were elected for 1912:

President, **J. L. Barker**; Vice President, **S. H. Williams**; Secretary-Treasurer, **W. S. Sandbach**; Censor, **T. W. Perkins**; Delegate to State Meeting, **W. S. Sandbach**; Alternate, **W. S. Lackey**.

Drs. Barker, **Lackey** and **Sandbach** were appointed as a committee to form a program for the next year.

There being no further business, we adjourned to meet the third Tuesday in January,

W. S. SANDBACH, Secretary.

Davies—The Davies County Medical Society met at the City Hall, Owensboro, on December 19th, with the President, **Ed. Barr**, presiding, and thirty-six members present.

J. Glahn read a very interesting and instructive paper on the old Transylvania University.

P. D. Gillim read a paper on the "Use of Salvarsan in Syphilis." He had given thirteen injections in as many cases. Reported no bad results, but some very good ones, and a few neutral. He is enthusiastic about the remedy, and made a good and interesting talk.

J. B. McGary reported several cases in which he had used it. He and **Dr. J. A. Kirk**, who spoke next, hoped for great results from the proper use of "606".

The paper was further discussed by **Drs. McKenney**, **Strother**, **Rash**, **Barnhill**, **Stirman** and **McDonald**.

Officers for the ensuing year were elected as follows: **W. E. Irvin**, Owensboro, President; **Ben F. Tiehenor**, Pleasant Ridge, Vice President;

As the Secretary-Treasurer had reported \$119.64 in the treasury, he was re-elected.

Sensor, **F. A. Miller**, Owensboro; Delegate **C. H. Todd**, Owensboro.

J. W. Ellis and **D. M. Griffith** made very good and interesting reports of the State Meeting, and were given a vote of thanks.

The city physicians set an elaborate banquet at which **Dr. D. M. Griffith** in his felicitous style

acted as toastmaster, and J. W. Ellis and E. D. Turner made good talks.

J. J. RODMAN, Secretary.

Franklin—The Franklin County Medical Society met December 4, at 2 p. m., with President M. C. Darnell, at his country home in social session and enjoyed a most delicious banquet.

The business session proceeded the banquet and besides the routine business, the discussion of "Euthanasia," was discussed from a medical, moral and unprecedented standpoint. Much diversity of opinion was expressed but the consensus of opinion was in the negative.

H. S. Keller was appointed to prepare a paper for next meeting, to select a theme on some line in connection with the State Board of Health, of which body he is an active member.

U. V. Williams proposed for submission to the society, whether it would be expedient in the lethal condition of our society to procure "Euthanasia" by a hypodermic of morphine and let it die painlessly or to attempt to revive it by the use of nitroglycerine and "Con-sel-sir." a-la Charley White-Moon."

It was finally decided to give the "Sick Man" one more chance to come around and elect officers for 1912, which was then had resulting as follows:

President, Flora W. Mastin, Frankfort; Vice President, H. S. Keller, Frankfort; Secretary, and Treasurer, U. V. Williams, Frankfort; Delegate to State Meeting, U. V. Williams; Alternate, H. S. Keller; Censor and Referee to be appointed in January by the incoming President.

After which adjournment was taken to January 1st, 1912, in the office of Drs. Williams & Mastin, Frankfort.

U. V. Williams, Secretary.

Lincoln—The Lincoln County Medical Society met in Dr. Peyton's office, December 12, 1911, and elected the following officers:

President, W. B. O'Bannon; Vice President, W. N. Craig; Secretary and Treasurer, M. M. Phillips; Delegate, T. H. Singleton; Alternate, J. A. Harmon; Board of Censors: E. J. Brown, T. F. Jones, W. D. Laswell, and W. J. Childers.

W. B. O'Bannon read an excellent paper on "Syphilis," and was discussed by all present.

The Committee on Program reported that during the year every member of the society would be placed on the program.

Papers for next meeting will be prepared by Drs. Singleton, Brown and Carpenter.

M. M. Phillips, Secretary.

Knox—The Knox County Medical Society met in regular session in the office of G. H. Albright, the secretary, at 1 o'clock with full stomach and empty pocket-hooks. We made this a general business meeting, without any regular program. After which we elected the following officers for

the ensuing year: President, Wm. Burnside, Barbourville; Vice President, F. R. Burton, Flat Lick; Secretary-Treasurer, G. H. Albright, Barbourville.

Each member present pledged their full support in assisting the President and Secretary in making these meetings instructive and with a full attendance at each meeting.

G. H. ALBRIGHT, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House, in Falmouth, Wednesday, December 13, 1911, with the following members present: Blackerby, Caldwell, Clark, Ellis, Hopkins, McKenney, Nichols, John E. Wilson, J. Ed Wilson, Woolery, W. H. Yelton.

The meeting was called to order with President Hopkins in the chair, and after roll call, and a reading of the journal of the last meeting, we proceeded to the business of the day. Under new business, the following were elected officers for the next year: P. N. Blackerby, President; O. W. Brown, Vice President; W. A. McKenney, Secretary and Treasurer; K. B. Woolery, Assistant Secretary and Treasurer; J. F. Daugherty, Delegate to the State Meeting for two years; J. A. Caldwell, Alternate; H. C. Clark elected member of the Board of Censors. Committee on Program: Drs. Blackerby, Brown, McKenney, Clark, J. Ed Wilson; Committee on Publicity, K. B. Woolery, W. H. Yelton, Caldwell; Public Health, Daugherty, Beckett, Nichols; Critic John E. Wilson.

After the usual report of clinical cases, and their discussion, the noon hour had arrived and we adjourned for dinner.

Afternoon Session.—First was a deferred paper by **W. A. McKenney**, subject, "Acquired Deformities of Children." Discussion was opened by **J. A. Caldwell**, after which several members discussed the paper.

This closed the business for the day and the rest of the time was given over to a social good time.

We have had a splendid year for our society, and we can see the many benefits that it is to us, and we are more thoroughly imbued with the spirit of fraternalism than ever before. While we have not grown in numbers, we have all the material in the society that it is possible to get, there are a superannuated member or two of the profession in the county but they are not trying to do anything, and considering that some of our best members live in another county, and some of those in our own county have to drive fifteen miles to get to the place of meeting, I think our average attendance of 12 1-2 out of 21 members in the society is hard to beat. Wishing the society in the State and our Journal a merry Christmas and a Happy New Year. And may we all begin the new year with a firmer resolve to be better physicians than we have in the past.

W. A. McKENNEY, Secretary. Google

Washington—The Washington County Medical Society met in the courthouse in Springfield on Dec 20th, with the following physicians present: R. C. McChord, Lebanon; W. W. Ray, M. W. Hyatt, W. E. Crume, W. R. Thompson, W. S. Gabhart and J. H. Hopper, of this county. Vice President Hyatt was in the chair.

The minutes of last meeting were read and approved.

R. C. McChord, our Councilor, having been invited to read a paper before this society, was present, and took for his subject, "The Open Treatment of Fractures of the Shafts of Long Bones." This was an excellent paper and it drew forth a great deal of discussion, and many questions. We are always more than glad to have Dr. McChord with us and we always are profited by his essays and good advice.

W. S. Gabhart reported a case of "Peritonitis" which ran a very irregular course. The interesting points were the cause and diagnosis. Every one present entered into the discussion at some length.

W. W. Ray reported a case of erysipelas of a child of three months which covered almost the entire body starting on the vulva. Large doses of anti-streptococcic serum were used with no results. The consultant noticing an article by a German physician in the Therapeutic Gazette, recommending antitoxin (diphtheritic) decided as a last resort to try it, though illogical. Two doses of several thousand units were injected. A change was noted for the better in twelve to eighteen hours and in forty-eight hours there was a very decided improvement.

The following officers were elected for the year 1912: W. E. Crume, President; W. S. Gabhart, Vice President; J. H. Hopper, Secretary and Treasurer; M. W. Hyatt Delegate, with W. S. Gabhart as alternate.

W. R. Thompson was appointed Censor for one year and Dr. M. W. Hyatt for three years.

J. H. HOPPER, Secretary.

Whitley—The Whitley County Medical Society met in Williamsburg, at the office of Drs. Ellison and Croley, December 12th, with the following members present: J. D. Adkins, S. S. Brown, L. B. Croley, C. G. Ellison, E. S. Moss, A. A. Richardson, J. H. Parker, L. Sproule, S. Sullivan, L. O. Smith, S. B. Snyder and M. W. Steele, and District Councilor J. S. Lock, of Barbourville.

After some delay awaiting the arrival of B. F. Tye and L. L. Terrell, President and Secretary, who arrived later having been unavoidably delayed, the meeting was called to order by Vice President S. S. Brown, who appointed C. G. Ellison acting secretary.

J. S. Lock, who having recently been appointed by the Rockefeller Institute to investigate the hookworm disease in Southeastern Kentucky, was called upon for an address. He stated that

there had been several cases diagnosed in the district, and following a very able discourse on the subject, he urged the cooperation of all the doctors in his research work, explaining in detail the method of obtaining and mailing specimens to the State Bacteriologist. Drs. Moss, Parker and others followed with interesting talks on the subject in a general way, with the conclusion that some relation might be found between that disease and pellagra.

The society expressed its appreciation of the action of the Rockefeller Institute, and of the honor conferred upon our sister county, Knox, in the appointment of Dr. Lock to do research work.

Officers for the ensuing year were elected as follows:

S. S. Brown, Mountain Ash, President; C. G. Ellison, Williamsburg, Vice President; M. W. Steele, Corbin, Secretary and Treasurer; L. B. Croley, Williamsburg, Censor, making the Board of Censors for the ensuing year: Drs. C. A. Moss, J. D. Adkins and L. B. Croley, all of Williamsburg.

Thursday, February 1st, was chosen as the time for the next meeting.

E. S. Moss, on behalf of the Williamsburg doctors, invited the society to meet at Williamsburg, promising entertainment to dinner to all members and visiting doctors. We trust that many will avail themselves of the hospitality of those big hearted medical men of Williamsburg. A good scientific program will be rendered.

M. W. STEELE, Secretary.

BOOK REVIEWS

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder.—By Paul M. Pileher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net.

During the past ten years the study of diseases of the kidneys, ureters and urinary bladder have been greatly stimulated by the development of the newer methods of diagnosis. Of these the cystoscope and the urethral catheter are undoubtedly the most important.

The indications for the use of the cystoscope are becoming more generally known, and the ease with which a simple cystoscopic examination of the bladder can be made has led to its early employment in appropriate cases. The present volume considers the indications for cystoscopy, and outlines its technique in the minutest detail, describing the instruments used, and how far to use them.

A notable feature of the work are the numerous illustrations, both plain and in colors, which assist greatly in conveying to the reader an adequate impression of the appearance of the bladder in the various pathological conditions involving it.

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ORIGINAL ARTICLES

A FEW REASONS WHY DRUGS DO NOT CURE INDIGESTION.

By HUGH N. LEAVELL, Louisville.

We might transpose this sentence and express it thus: "A few cases of indigestion which drugs cannot cure"; for we must acknowledge that drugs cannot do all we claim for them.

Indigestion is but a symptom of a pathological condition, or a change in the secretions; therefore, we may divide cases of indigestion into two general classes, as follows:

1. Indigestion superinduced by changes in secretions.

2. Indigestion superinduced by organic changes in the stomach or some remote organ.

There are a great many conditions of secretion over which medicines have but little influence. Cases are on record where persons have become gray-haired in a single night, due to changes in secretions furnished to the hair follicles. We know that the secretions thrown out by the stomach are markedly modified by habits of life, time of taking food, and many other conditions, too numerous to mention. The gastric secretions must change as our diet changes or we suffer from indigestion. The character of the blood current may influence digestion and assimilation so that the worst symptoms of indigestion which we have may supervene. Passive congestion of the stomach superinduced by a liver disorder, or by Bright's disease, is an instance in point. The physician who attempts to keep up with the whimsicalities of every stomach must have the lamp of Aladdin to illuminate his field of vision; or, if he be so astute as to recognize

causes for every symptom, the juggling with materia medica which would be thus necessitated, would be well-nigh impossible. Take, for example, the most common condition of hyperchlorhydria. Antacids but modify the acids in the stomach, so that the intestines, by virtue of the modification of these acids, are not properly stimulated and we superimpose upon what was once a purely stomacheic condition, an intestinal one which is far more serious. Physiologists tell us of the marked correlation which exists between the digestive secretions. We recognize that the normal secretion of the salivary glands is essential in the proper stimulation of the gastric juice, and the gastric juice, in turn, must be of a proper consistency in order to stimulate the activities of the liver, or the *succus entericus*. The modification of any one of these secretions may influence digestion anywhere from the oesophagus to the colon. We must depend at all times upon the proper correlation of these digestive juices in order to maintain normal digestive functions anywhere in the digestive tract. As yet we have no drug which can supply the proper stimulating force for cell activity. The class of drugs called digestants are only of value as extraneous remedies, having no stimulating effect whatever upon cell activity, but rather having a tendency to inhibit the activity of the cells by reason of the fact that they do for the organs work which the organs themselves should do. This point is well emphasized in the use of peptonized foods, the individual being able to take care of a much higher percentage of proteids, or other foods, by reason of their having been predigested. If we use drugs such as some of the stomachics, we merely increase the flow of the gastric juice beyond the normal, and if this be in excess,

it may over-stimulate the organs farther along the digestive tract, and overstimulation will sooner of later result in a reaction which will mean lessened secretion and consequent indigestion. I do not wish to be put down as a therapeutic nihilist, but I do believe that drugs which overstimulate, or drugs which lessen the gastric secretions below the normal, cannot do other than harm. As a temporary expediency they are of some benefit, but does this necessarily mean a cure of the condition? Therefore, we must say again, that drugs which have for their function an increase of secretion, or a diminution of secretion, ultimately work along a pathological line. We know the tendency to the production of gastric ulcer by hyperacidity of the gastric juice, and we often see symptoms of marked indigestion produced by *nux vomica* in increasing the flow of the gastric juice.

The opposite condition, anacidity, such as is found in cancer of the stomach, is treated by supplying the material which is lacking—namely, hydrochloric acid, and we find that this, sooner or later, has a tendency to increase the growth of the pathological process.

I think it can be safely asserted that we have not yet reached the point where a gastric analysis will furnish us all the points which we need in making our therapeutic attack, and one of the reasons for this seems to be the variability of the gastric juices. We cannot doubt that, as a confirmatory measure, considered in connection with the history obtained as to previous attacks, etc., gastric analysis may often furnish us a clue as to the proper procedure, but even then our therapeutic resources are limited so far as the secretions are concerned.

As to the second proposition—indigestion superinduced by organic changes in the stomach or some remote organ—I have no doubt that there are many present who are constantly finding cases of gall-bladder disease, appendicular troubles, lesions in the sigmoid, etc., by which the digestive apparatus is modified or influenced. I also have no doubt that many here present can cite examples of chronic appendicitis giving rise to hyperchlorhydria. It is surprising to see how many cases of indigestion have a distinct pathological lesion as a causative factor. Those who will take the trouble to examine the right iliac region, the hepatic region, and the region of the sigmoid, will be surprised to find how many times cases of chronic indigestion will present tenderness upon palpation in either of these regions. I am sure that no one would think, for a single moment, of curing appendicitis or gall-stones, for instance, by any known method of drug medication. It took a good many years for the profession to come to recognize appendicitis, for example, as a

purely surgical disease, and at the present time there is a remarkable trend in the same direction with respect to gall-bladder disease and ulcer of the stomach. I do not mean to say that gall-bladders should be removed in the same way that appendices are now removed, but that drainage of gall-bladders which have been the subject of cholecystitis or gallstones will have a marked effect in the alleviation of many digestive disturbances which have been superinduced by pancreatic disease as well as hepatic disorders. It is unnecessary to report many cases to illustrate the inefficiency of drugs and the value of operation for the relief of many of these patients, but one case with which I recently came in contact will be sufficient, I think, to demonstrate that drugs are of little avail.

Mr. H., 65 years of age, had an attack of gall-bladder disease twenty years ago. At that time no stones were diagnosed. After this attack he did not see a physician for a good many years, except for occasional attacks of grippe, so-called. I saw him for the first time six weeks ago, with a history of having suffered for several months with what he thought was appendicitis, but in the fear that some one would advocate an operation, he deferred consulting a physician. He also complained of dragging pains all over the right side. He was a man who had never drank to excess, and who was very moderate in his eating, but his habits were sedentary. An examination of his urine was made, but no pathological lesion was found other than an indicanuria. He gave a history of his bowels having acted daily, but occasionally he had to use a mild laxative. He sometimes suffered with a burning sensation in his stomach a few hours after eating, which was possibly due to an hyperchlorhydria. This was relieved by the ingestion of food.

Physical examination revealed marked tenderness over the hepatic region, extending well down toward the appendicular region. He had a temperature of 102°. After mild purgation the acute symptoms subsided, and were followed by marked anorexia and a good deal of flatulency. After about two weeks in bed upon a liquid diet and intestinal antiseptics, during which time he made no progress, he rather suddenly developed symptoms of intestinal obstruction. Thinking this was probably due to adhesions in the region of the gall-bladder, he was given eserine hypodermically for two or three days, hoping thereby to lessen the excessive gas formation and possibly allow the bowel to straighten out its own kink, but as he did not get relief from his symptoms he was taken to the infirmary and operated upon.

Upon opening the abdomen a marked amount of fluid was drained off, and upon fur-

ther exploration the tumor which I herewith present was found. Recognizing the hopelessness of the case, the abdomen was simply closed. He rapidly recovered from the effects of the operative procedure, but died two days later with symptoms of asthenia.

After his death, with the permission of the family, I removed this mass which, upon examination by Dr. Baldauf, proved to be a metastatic carcinoma of the omentum. This condition has for its starting point, the gallbladder, and had he been treated twenty years ago as is now advocated, the chances are that he would have been saved many years of suffering, and his life prolonged.

Primary cancer of the omentum is extremely rare, and as a metastatic growth I am sure it is not common. Therefore this case may be of some interest. It also demonstrates my second proposition—that indigestions are often superinduced by pathological conditions upon which drugs can have no effect.

In closing, I wish to state again that, having no drugs by which we can stimulate normal cell activity, and no drugs by which we can influence the secretion of one organ except to the detriment of another, or the production of a pathological lesion in the organ which is stimulated, therefore, we can safely assert that medicines must necessarily play a minor role in the cure of indigestion. So far as pathological lesions are concerned, they can have absolutely no effect for the reason that a lesion which is sufficient to cause enlargement of an organ may sooner or later, by metastasis, affect other organs, or by throwing out numberless adhesions, may produce acute intestinal obstruction.

DISCUSSION.

Wm. H. Wathen: I do not know of a more timely subject than that which Dr. Leavell chose for his paper, because we are now going through an evolutionary process in connection with the treatment of this condition—from the functional idea to the organic belief. I will not consume your time by reciting the numerous cases of chronic dyspepsia that I have cured by operation for organic diseases of the stomach, of the gallbladder and of the appendix. We frequently have indigestion from arteriosclerosis, locomotor ataxia, and other conditions, the stomach symptoms being only a manifestation of the organic disease. I will have time in this discussion to refer to only three of the organic lesions which occur in the stomach, in the gallbladder and in the appendix.

We will find nothing so beautifully written in the present age as the classic descriptions of dyspepsia given so many years ago by Watson, Johnson, Abercrombie, Abernathy, and Trouseau, but they all believed that these dyspepsias were simply functional disorders, and treated

them accordingly. Now we seem to be going to the other extreme, which is due to the progress of abdominal surgery, and to the fact that most of these old cases of chronic dyspepsia, that have been treated for many years perhaps, by the internists, are never cured; or, rather, are cured half a dozen times but always with recurrence. We remove gallstones from the gallbladder, or separate adhesions of the gallbladder and drain it, and these cases are cured. We see patients who have been treated for from two to twenty-five years by internists, who have pain coming on two to four hours after eating, and continuing until food is taken, which relieves the pain. They get a little better under medicinal treatment directed to the stomach, and very often they will get better without any treatment at all. They are better in warm and dry weather, and worse in cold or wet weather. Sometimes they will feel entirely well for several months, but recurrence will always take place. Such cases are never cured until operated upon for chronic, calloused ulcer of the duodenum. Other cases, not so marked, are those where there is a chronic ulcer in the pyloric end, or body of the stomach. These also are never cured until surgery is done. There are still other cases where we have indigestion coming and going, or possibly continuing for several months at a time, in which the pain is worse just a few minutes after eating. These are never cured except by operation, revealing some pathology of the gallbladder. There are other cases where we have indigestion coming on and lasting continuously, sometimes better and sometimes worse, the pain usually increasing soon after eating. Such cases will not be cured until we have removed the appendix. This organ may not be greatly diseased, but there have been pathologic changes which will not get well, and the patient will not get well of dyspepsia until the appendix is removed. Operative work has shown that in from 30 to 40 per cent. of cases of chronic ulcer of the stomach or duodenum, a manifestly diseased appendix will be found which has antedated the ulcer, showing that there is apparently some relation between the origin of ulcers in the stomach and duodenum and appendicitis.

In conclusion, I will say that originally most of these cases were considered to be functional, but every day we are excluding some so-called functional disorder and showing that it has an organic pathology. I make this prediction; that within the next ten years, at least 90 per cent. of all cases of chronic dyspepsia, that have in the past been treated as functional, will be proven positively to have an organic basis, and will be relieved by proper surgical procedure, except cases where the dyspepsia is but the stomach expression of cardiac insufficiency, arteriosclerosis, chronic nephritis, locomotor ataxia, etc.

Bernard Asman: Indigestion is very often a

symptom of disease conditions outside of the stomach. Dr. Wathen has very properly called our attention to the fact that many cases of indigestion are cured by operations for disease of the gall bladder, appendix, etc. I feel that I must also call attention to the fact that many cases of indigestion are relieved by the removal of piles. No less an authority than Tuttle in his excellent text book upon diseases of the rectum, in classifying the vaguer symptoms suggesting the necessity for an examination of the rectum, puts indigestion at the head of the list; and it is unquestionably a fact that, very often, after operation for the removal of piles, or some other ano-rectal disease, a patient who has been a sufferer from indigestion for many years, will, in a comparatively short time, be entirely relieved of his indigestion.

Bernard J. O'Connor: It would appear that after all these specialists are through with us, we will not have an organ left in the body. There is no question in the world that indigestion may spring from numerous sources, but one would gather from the discussion this evening that indigestion is always a surgical condition. I think this is a mistake. As to Dr. Wathen's prediction, it would appear that he can see farther into the future than most of us. Of course, there are numerous abdominal conditions which may cause reflex stomach symptoms, but there are other diseases which, by toxicemic disturbances, may give rise to manifestations of stomach trouble. Of the latter the one which is to my mind of the most importance, is tuberculosis. Tubercular conditions are almost invariably accompanied by symptoms of indigestion. Therefore, in every case in which we find these symptoms, I think we should take the temperature and examine the chest, as well as the gallbladder, duodenum, rectum, etc. Nephritis could also be cited as another common cause.

In connection with the case reported by the essayist, he mentioned that the patient had an indicanuria. Indicanuria is an exceedingly important symptom and one which the majority of practitioners do not appreciate. It is not always an indication of intestinal obstruction, constipation, proteid indigestion, and like conditions, but we invariably find it present in suppurative conditions. No matter where the suppuration may be located, the absorption of the toxic substance will produce an indicanuria. The same is true of malignant conditions. In Dr. Leavell's case, the patient had a carcinoma apparently of some portion of the intestinal tract. If this growth was of the cylindrical-cell type, it unquestionably originated somewhere in the intestinal tract, or in the gall-bladder.

E. S. Allen: I would like to ask the essayist whether or not there were any adhesions between the gallbladder and omentum? I would say that this omental growth is merely an extension or transplantation of the carcinomatous cells from

the gallbladder. We know that it is impossible to have a primary carcinoma of the omentum, or peritoneum, or any structure of mesoblastic origin, and when they develop in these structures it must be due to transplantation.

I think Dr. Leavell, in referring to cases of chronic indigestion which need operation, had in mind those cases which have continued over a long period of time, and which have not been relieved by rest, diet and medication; that such cases must have some organic lesion which is responsible for the trouble, and I think that is generally the case.

B. F. Zimmerman: I think in discussing this or any other subject, we are apt to regard it from our own particular viewpoint; that is, the rectal specialist is prone to attribute disorders of digestion to some condition of the rectum, the eye specialist to errors of refraction, the gynecologist to the uterus or its adnexa, and so on. We have here a group of conditions in some of which the symptoms are directly due to a pathologic lesion of the digestive tract; others where they are in the nature of reflex phenomena. It seems to me to be rather stretching it a little to say that ninety-nine out of every hundred cases of chronic digestive disturbance are due to some surgical condition, abdominal or otherwise. It will be a very difficult matter to convince any man who has had considerable experience in general practice that such is the case. I grant you that disease of the gallbladder and appendix, hemorrhoids, uterine displacements, disease of the tubes and ovaries, etc., may give rise to symptoms of indigestion. Furthermore, we may have lesions of other parts of the body, not of a surgical nature, which may give rise to just as pronounced symptoms of indigestion as any surgical condition of the abdomen. Any one who has had any experience in general practice recognizes the relationship between organic lesions of the heart, or thoracic conditions, and digestive disturbance, renal conditions and digestive disturbance, and, above all, affections of the central nervous system, either organic or so-called functional, which may give rise to a multitude of digestive disturbances. Therefore, I think we should not go off "half-cooked" as it were. We should consider every condition which may, directly or reflexly, give rise to these digestive disturbances before we arrive at the conclusion that surgery is the panacea for all of these ills.

W. A. Jenkins: I should not speak of this subject from the standpoint of the internist, and yet, if I say anything at all, it will have to be from that standpoint. We have been told to-night that drugs cannot influence physiological cells, and likewise that the only permanent relief for chronic indigestion is the use of the knife, and I feel that there is very little left for me to say. Fortunately, however, as shown by the other speakers, there are men here to-night who do not

agree with the essayist. Nevertheless, I take it that there are some lessons for the internist to gain from this paper and discussion. Whether these gentlemen be right or wrong in their premises, the fact remains that we are not doing as much as we ought to do along this line. Perhaps we are not recognizing this condition as often as we should, and perhaps we have not an appropriate treatment for it, and, that being the case, it behooves us to take ourselves back, review the ground and adopt different, newer and better methods; or, at least, to make a careful, scientific search for other methods or arriving at conclusions in these obscure cases. I think that modern inventions for ascertaining various facts which have a bearing upon disease conditions, together with more careful and thorough methods of physical diagnosis, are going to help us a good deal, enabling us to make diagnosis by exclusion, sticking to one hypothesis until it has been proven to be right or wrong, and not discarding it until disproven, using every means at our disposal for determining these conditions. This we will have to do, and it will enable us to prove whether or not drugs are absolutely useless and the knife is the only remedy.

No less an authority than Von Noorden made the statement that the internist had a new field in the study of metabolism and that some startling results were to be obtained along the line of internal medicine. Such men as Voit, Salskowsky and Von Noorden himself have been doing a great deal of work along the line of physiological chemistry and metabolism. Again, the work done by Cannon has enabled us to interrogate the pancreas and liver and see what they are doing by examination of the feces. If we adopt the newer studies of metabolism and try to make progress along this line, we may some time get to the point where we can get these cases in the pre-surgical stage, which is the ideal thing to do. The surgeons say that they cure these cases by surgical methods, but I have an idea that many of them are not permanently cured, and I believe there are other internists in this room that have had the same experience I have. I have had these obscure cases in which the conclusion was reached that the gallbladder ought to be opened and drained, and they were referred to the surgeon for operation. The individual seems to improve promptly; there is apparently an almost miraculous change for the better, but in the course of a year or two there is a recurrence of the symptoms and the patient is worse than before. I have under observation a woman who was operated upon eighteen months ago, and she is getting back into identically the same condition as before the operation. She is having the same attacks and they are quite as severe. Perhaps if we, as internists, knew the proper steps to take in such cases as this, we might prevent them from becoming surgical. I know of other cases which

have followed the same general course. Therefore, surgery is not the entire nor the best solution of the problem; we must acknowledge that there is a field for the internist and therapist. They are coming into their own, and therapeutic measures, whether drugs, antitoxins, vaccines, or what-not, are going to become of more value than ever before. There will always be a place in the practice of medicine for the internist.

F. C. Askenstedt: While many cases of indigestion are no doubt due to causes outside of the stomach, still it is a fact that treatment directed to the stomach will satisfactorily palliate the majority of cases of indigestion that come to us as internists. The surgeon finds that many cases of indigestion are associated with appendicitis, gallstones, etc., and if the patient improves after an operation he concludes that the indigestion was due to the surgical condition, but he has no means of knowing how many cases are relieved, or cured, by the internist without surgical measures.

I was delighted with this paper. I do not know of a single point made by the essayist to which I would take exception. One point that I would particularly emphasize is the abuse of drugs. Perhaps, being a homeopath, I know more about that than the rest of you, because it is those cases that have been drugged and drugged until the stomach has rebelled that come into our hands for gentler treatment. There is no doubt in my mind that a great many cases of indigestion are induced by abuse of the function of the stomach; that is, by abnormal eating and drinking; some swallowing their food half masticated, others bolting it with enormous quantities of liquids. Some persons have the idea that the more water they drink, the better their digestion.

Another point to which I wish to call attention is the motor power of the stomach. Most cases of indigestion are produced by insufficiency of the motor power, and this is a condition that we are apt to overlook. In all of these stomach cases we should ascertain, by gastric analysis, not only the increase or deficiency of hydrochloric acid, but we should determine the position of the stomach and its motor power. When the stomach retains the food for an abnormally long time, fermentation, and sometimes putrefaction, takes place, causing a sense of distension, eructation, and sour risings. In other cases, although there may be a diminished amount of hydrochloric acid, and an actual gastritis, the patient may not complain at all, because the motor power of the stomach is increased and the food is passed into the intestine before digestion is completed. In treating these cases, therefore, we should adjust the stomach to the condition that is present, and that alone will do much toward relieving these patients. In cases where the motor power is diminished it is a good plan to give small meals at frequent intervals; not

dry food, as is sometimes recommended, but mushy food, half solid and half liquid. By feeding the patient every hour or two, these cases of gastric motor insufficiency will often be greatly alleviated.

We should not attempt to treat any case of stomach trouble without first making a very careful analysis of the urine. The presence of indican in the urine indicates positively that putrefaction is taking place in the intestines, and while some constitutions can take care of this excessive indicanuria, many others are not able to do so. Most of the toxins are evidently of protein character and those persons who are able to stand this amount of indican in the system are always on the brink of pathology and there is always imminent danger of the system breaking down.

The acidity of the urine should be determined, not only qualitatively, but quantitatively, and where there is a hyperchlohydria we should endeavor to palliate it by giving an alkali if the acidity of the urine be high, but where a neutral or alkaline reaction obtains there is a possibility of the blood becoming over-alkalinized, and the urine becoming strongly alkaline, and renal calculus may result.

J. D. Hamilton: I have been very much interested in Dr. Leavell's paper. We are bound to recognize that, as internists, we have not always made our diagnoses positive, and to administer drugs, with an imperfect diagnosis, is bound to bring about unsatisfactory results, but to my mind it does not prove that drugs are absolutely useless. The fact that we have not thoroughly understood the pathological condition present, nor the therapeutic and physiological action of the medicines used, is not an indication that drugs are inert and useless in such conditions, nor, as has been held by surgeons present this evening, that they can be cured by surgery. I believe that when we come to understand more about the pathological conditions we are dealing with, we will find that many of these cases are unquestionably organic, and not functional, but it does not necessarily follow that because it is an organic lesion it must be treated surgically. As has been brought out by Dr. Jenkins, the field of metabolism is broad and as yet practically uncultivated. The field is open to us as internists, but we have not cultivated it, and we should not get jealous of the surgeon because he has been doing better and more scientific work along these lines.

I can indorse everything that the essayist has said except that drugs have no effect whatever. If we know how and when to use drugs, and for what we are giving them, we will get good results, but in the hands of a man who does not know how to use them, they will do harm. Also, if the surgeon puts his operating paraphernalia in the hands of a man who does not know how to use it, he will do more harm than good.

John Karagiozian: Of course, I stand with

the general practitioners upon this question. I wish to mention only one or two points in connection with this subject. Being from a foreign country I notice the difference between the customs of this country and others. This is a young nation and it has an enormous appetite for various things. One is for food. American people like to eat all the time, whether they have an appetite or not, and whether the stomach is sick or well. I asked one of my friends at meal time whether he had an appetite, and he replied—"No; I have no appetite, but I have the habit." American people have the habit of eating and there is no rest for the stomach, and when the stomach breaks down and they have no appetite, they go to the doctor for a prescription for some medicine to give them an appetite. All this leads to various conditions, such as heart trouble, rheumatism, etc. In my country the people very seldom suffer from indigestion. They eat only twice a day. They go to their work in the morning without eating anything, and just before noon they eat a very light meal. The evening meal is really the only meal they have, and by that time they are hungry, the body desires food, and they have an enormous appetite, but not enough to destroy their constitution. When people have dyspepsia they should give the stomach rest; they should not eat until they have an appetite—until Nature calls for it. I have never seen the people of any other country break down at the age of 40 or 45 as they do here, and at first I could not understand the cause of it. The people of this country have an immense appetite for sexual relations, and that will break down the people of any nation. The nervous system has a very intimate connection with the stomach, and when the nervous system breaks down the stomach suffers. We can regulate this somewhat if we would not be ashamed to question our patients in regard to their sexual relations, and suggest to them to be moderate in all things, and not to give way to their appetites all the time.

Hugh N. Leavell, (Closing): Dr. Wathen, in speaking of digestive disturbances necessitating surgical procedure, went so far as to state that but few disturbances of digestion are functional in character. I believe that we will realize the truth of this more and more as we study metabolism further and further. There is nothing that is attracting the attention of the medical profession to-day more than the chemistry of the digestive juices, and the further they go into this subject the more they find that disturbances of metabolism have for their origin an organic change somewhere in the body.

In regard to Dr. O'Connor's discussion, I will only say that if he will follow all of his cases of indigestion to the operating room, he will find, perhaps, a great deal more pathology than he is aware of at the present time.

I do not think that we should look at cases of

indigestion from the viewpoint of our specialty, as suggested by Dr. Zimmerman. It is not necessary to examine the rectum of every patient that comes to us for a pathological condition of the stomach.

A great deal has been said about reflex disturbances, but does not the use of that term imply a pathological condition existing somewhere which gives rise to these reflex disturbances, the removal of which cures the trouble? It seems to me that this bears out what I said in the beginning; that drugs have little or no influence upon these conditions. The more we delve into the subject the more we find that these digestive disturbances are reflex in character, secondary to some pathological condition upon which drugs can have no influence.

Dr. Jenkins says that he has seen cases of this kind, superinduced by gallbladder disease or appendicitis, markedly relieved by operation, only to lapse into their former condition within a comparatively short time. Did he, in these cases, look again for pathology about the gallbladder which had been opened? Did he ascertain whether or not there was a constriction of the gall duct, induced by the operation? Did he take into account adhesions which might have formed? In other words, did he look at it from a surgical standpoint, or did he consider the medical condition paramount? If he had looked into some of these cases perhaps he would have found a constriction of the gall duct, a condition more serious than the gallstones, for the removal of which the former operation had been done. Does that prove that surgery was not effective? Does it demonstrate that all of the pathology was eradicated because the gallstones were removed?

In regard to Dr. Askenstedt's remarks, I will say that we all recognize the masterful manner in which the doctor practices medicine; we all know that he is a competent diagnostician; we recognize that, although a little short on the therapeutic end of it, it is possibly better for the patient. And does not that further demonstrate the inefficiency of drugs so far as a cure of these conditions is concerned?

Dr. Askenstedt also mentioned motor insufficiency, and the possibility of relieving hyperchlorhydria by a proper diet, etc. We know, of course, that hyperchlorhydria is easily relieved by proper diet, and drugs, but does this demonstrate that the underlying pathology is not sufficient to demand surgical interference? Some time ago I exhibited to this society a case of perforated gastric ulcer. This man had been under my care for several months, refusing surgical interference. He obtained marked relief from the use of bismuth, purgation, regulation of diet, etc., but in an instant that man's life came within an ace of being snuffed out by the perforation of a gastric ulcer, necessitating immediate surgical interference. Since the operation this man has

not had a symptom of gastric disturbance. This is an instance in which drugs relieved and palliated the condition, but did not cure it.

This proposition is not a proper subject for controversy between the surgeon and the internist. I treat a good many of these cases by internal medication, but does that mean that the issue must be clearly drawn, and that we shall be continually at logger-heads about these conditions in the digestive tract. Of course, there is a time when proper regulation of the patient's diet will have a marked influence upon digestive disturbance, but that does not demonstrate that they will be of any permanent benefit after a pathological condition has developed in the stomach, or the secretions of that organ. I do not say that drugs are not palliative, but so far as a cure is concerned, I still maintain that medicines have no place in the treatment of pathological secretions or pathological lesions.

ARTERIOSCLEROSIS.

By J. M. MORRIS, Louisville.

It is interesting to know that, in ancient times, the arteries were thought to contain air and to convey it to different parts of the body, and from this erroneous idea was derived the name, arteries; the term being derived from two Greek words, meaning "air" and "to convey." The minute structures of the arteries is well adapted to the varying functions which they perform. In every large and medium size artery, three distinct layers, or coats, may be distinguished under the microscope. The inner coat, or tunica intima, is composed of endothelial cells and fibrous elastic tissue; a middle coat, or tunica media, composed mostly of muscular fibres; an external coat, or tunica adventitia, made up of white fibrous tissue. I mention the minute structures of the arteries because upon changes in these different structures, depend the nature and cause of the disease under consideration. The arteries are subject to a number of diseases which may be due to infectious micro-organisms, degeneration with increase of connective tissue, aneurysm, etc. Of the acute infectious diseases, tuberculosis and syphilis, especially the latter, are the most important. Syphilis is one of the most important of all causes of arterial degeneration. Recent bacteriological studies have shown that bacterial infection of the arterial wall is a fundamental and important process. It is often the cause of an arterial thrombosis, and frequently develops into a true arteriosclerosis. Under this general head, arteriosclerosis, is classed a diffuse or circumscribed thickening of the arterial walls, especially of the tunica intima, secondary to inflammatory or degenerative changes in the tunica media. Arteriosclerosis is sometimes found in the young, but is usu-

ally a disease of later life. The disease may be circumscribed or diffused; it may show irregular plaques of a transparent or gelatinous character, which at a later period become hard and fibrous, or even calcified with the formation of brittle, or "pipe-stem" arteries. Sometimes the arteries undergo a fatty degeneration. There is a proliferation of the connective tissue, and a degeneration of the elastic tissue. The arteries thus become less responsive to control, and so interfere with the nervous impulses. In the diffuse form, the proliferation and degeneration are more uniform. Arteriosclerosis is one of the most important of all the diseases, since, by its interference with the proper supply to an organ, it is almost certain to occasion disease of that organ. In pronounced general arteriosclerosis, all the organs of the body suffer. Arteriosclerosis is also one of the most important elements in the production of cerebral hemorrhage. The modern view of arteriosclerosis as a general disease, dates from the papers of Gull and Sutton, in 1872, who called the process "arterio-capillary fibrosis." While in this discussion they dealt particularly with the relation of contracted kidney to arterial changes, nevertheless, in their first two conclusions they clearly announced a conception of arteriosclerosis which has undergone no special change since that time; namely, that there is a diseased state, characterized by hyaline fibroid formation in the arteries and capillaries; and, second, that this morbid change is attended with atrophy of the adjacent tissues. Sutton had an extraordinarily clear idea of the whole process, and of the relation of visceral lesions to the vascular condition.

Thomas, about this time, in his remarkable studies, widened our conception of the pathology of this process. Four great factors may be considered in summing up the causation of arteriosclerosis; namely, the normal wear and tear of life, the acute infections, the intoxications, and those combinations of circumstances which keep the blood pressure above normal.

Let us consider, briefly, each of these factors.

First, as to the wear and tear of life. Of all the organs of the body, the blood vessels alone enjoy no rest. Not only does the blood journey continuously through them at an average rate of ten inches per second, but the walls of the large arteries are subjected to a distending force of two and one-half pounds per square inch, sixty to eighty times per minute; or, 80,000 to 100,000 times each twenty-four hours. The stability of tubing of any sort depends upon the structure and upon the sort of material used, and so it is with the human tubing. With a poor variety of elas-

tic and muscular fibres in the blood vessels, some are unable to resist the wear and tear of every-day life, and at forty years of age have arteries as old as others at the age of sixty. The arteries in the two individuals may look alike macroscopically and microscopically, but they differ in the material used, as it were and the capacity to resist the ordinary strain of life is unequal. The conditions attending modern life are very productive of arteriosclerosis, for a man runs his body machinery at high pressure and often takes less care of it than he does of his motor. The best express engine which the skilled and scientific workman can produce cannot last one-tenth the time, nor do nearly so reliable service when run day by day at maximum speed, as it can when run at a more moderate rate. And so it is in this, our present day of hurry and worry; the human engine must be run at top speed or not run at all, and we cannot wonder that very early signs of hard usage begin to show. In the fourth or fifth decade, even with the best of habits as to eating, drinking, and other modes of life, the incessant strain and anxiety of public life, or of business, may lead to degeneration of the blood vessels. Mental exertion in itself is not injurious, and the life of the student need not be one of great tension, but the mental exertion of the modern business man is of a very different character. Competition is so keen, and environments so stimulating, that even without professional or social ambition, high pressure and arterial tension are unavoidable. The tragedies of life are largely arterial. Nemesis, who was represented in the old mythology as the winged Goddess of the inevitable, may still be pictured with an unbroken wheel—the Wheel of Life—to the ceaseless revolution of which the circulation ministers. And how often does her fatal touch call away, in the prime of life, the best and the bravest men, whose only fault was their unselfish abuse of the body machinery. After the age of forty it is exceptional to examine the arteries without finding some evidence of degeneration, with here and there a small plaque of atheroma, an occasional streak of intimal fatty degeneration, and with this the mitral and aortic cusp losing just a little of their delicate tenuity. With advancing age the arteries become thicker and the atheromatous changes more marked. As a rule, in the very aged, not only are the smaller arteries thickened, but the aorta and its main branches show extensive changes, with calcification. Very exceptionally, however, an old person may be found with singularly healthy arteries. Owing to the more quiet life of the average woman, the disease is oftener found in men than women. Also, it is true that women, as a rule, live longer than

men; hence we have so many widows. Arteriosclerosis may occur in infants and young children, either as occasional patches, or flakes, or even calcified patches in the vessels of the newborn; or, in infants dying of acute infections, streaks of fatty degeneration of the intima and foci or necrosis of the media, are not uncommon. Widespread arteriosclerosis of the smaller vessels may occur without nephritis, and without recognizable cause; or, in congenital syphilis, diffuse or localized sclerosis of the arteries may occur, sometimes very early, sometimes very late. Tremont Smith has lately collected 144 cases of these diseases, in the very young, from the literature on this subject.

As to the acute infections causing arteriosclerosis, I should say that syphilis stands at the head of the list.

Some changes are best described as acute productive arteritis, others as degenerative changes, which come in the category of chronic arteritis. Extensive arterial changes in children and infants are very often syphilitic. We have also learned to recognize the great frequency of scarlet fever, measles, diphtheria, small-pox and influenza as primary causes of arterial degeneration. It has long been known that in typhoid fever, areas of necrosis and fatty degeneration and necrosis of the arteries are met with. The observations of Thayer show how important are the cardio-vascular relations of this disease. Of 32 post-mortems, made at the Johns Hopkins Hospital, evidence of sclerosis in 30 were noted, and in 21 of these cases the changes were recent. Thayer also examined 190 patients who had had typhoid fever within the last fourteen years, and found that 40 per cent. of the patients between the ages of 10 and 50, had palpable radial arteries. At the Franz Joseph, Wissal examined 300 bodies of children dead of acute infections, and in 80 he found evidence of arteriosclerosis, usually in the form of patches in the coats of the larger branches, but the smaller branches were involved also.

Arteriosclerosis is frequently found associated in the same patient with tuberculosis. Especially is this true in cases where the tuberculosis is of more than one or two year's standing. It has been observed by many writers that, in chronic phthisis, the superficial blood vessels in most cases are more or less thickened. Of the poisons which have an important influence on the blood vessels, some are exogenous and some are endogenous. Of the special exogenous poisons, alcohol, lead and tobacco perhaps should be first mentioned the first, alcohol, being very generally regarded as a potent factor in causing degeneration of the blood vessels, although in man it is difficult to separate, in many in-

stances, its effect in producing this disease from other causes. Of late years, there has been a tendency by many to rebel against the popularly accepted theory that alcohol plays so important a part in the production of this disease, and in France, some men (Lancero and others) reject the theory entirely. R. C. Cabot also holds the same opinion. But there can be no reasonable doubt that alcohol plays an important part in the production of this disease, the difficulty being in determining just how far its influence has reached in any given case. For instance, in a middle aged man who has drunk freely, eaten largely, and worked hard for many years, it is impossible to say which of these factors has played the greater part in the production of his hardened blood vessels. Alcohol may act as a direct poison, thus causing necrosis of certain elements of the blood vessels, or it may be a factor in maintaining a constant high pressure.

Tobacco is another poison about which it is difficult to obtain conclusive evidence. It is easy to produce extensive degeneration of the aorta in animals with nicotine, experimentally; but when one considers the extraordinary quantity consumed by a man during many years, and shows no trace of vascular changes above that incident to the ordinary wear and tear of life, it is not easy to understand how it bears the great influence attributed to it in the production of this disease, yet we do know that it rapidly raises the tension, and may cause spasm of the arteries, which factor may account for the cases of sudden death in young and middle-aged men in whom excessive use of tobacco has been the only etiological factor. Angina pectoris is sometimes associated with the use of tobacco, and the influence may be through introducing an arteriosclerosis of the coronary artery. It has been shown that lead has an important effect upon the blood vessels. A slowly-developing sclerosis is common among painters and others who habitually handle lead, by gradually taking small quantities of the lead into their system. The direct toxic action of lead upon the blood vessels, the disturbance of metabolism which leads to gout and chronic interstitial nephritis all of which are associated with high tension, favor sclerosis.

Of the endogenous poisons which may produce arteriosclerosis, may be mentioned all the conditions of perverted metabolism. The thickening of the arteries in gout, in diabetes, in chronic Bright's disease, and obesity, may be due to the action upon the blood vessels of poisons retained in the system.

With reference to the conditions which keep up high blood pressure, we must first remember that the pressure with which the blood circulates within the arteries, varies greatly

within limits, in order that the circulation may adapt itself to the varying conditions of life. Among the causes which tend to produce heightened blood pressure, may be mentioned, first, over-eating. Excess of food and drink acts in two ways; (1) in keeping the blood vessels constantly distended; (2) in the process of primary and secondary metabolism, substances may be found which are directly toxic. This is the condition so well described by Francis Hare as hypopyremia, a state in which the system is damaged by products of imperfect metabolism. It is a well-known fact that many cases of arteriosclerosis are met with in cases who have always been temperate in everything except at the table. It is also true that in the United States, arteriosclerosis is very common among the well-to-do class, who, as a rule, are abstemious so far as alcohol is concerned, but exceedingly careless and indulgent in the matter of eating. The fact is fully established that one main cause of arterial pressure in middle life is excess of feeding, that is to say of food in excess of the work and exertion. The railroad engine capable of running fifty or sixty miles an hour when stoked for that purpose, if put in the station yard to shunt empties, will soon go to pieces. This is what many of us do with the body engine. We supply the fuel sufficient to run fifty miles an hour when, in fact, we fail to run it more than eight or ten miles an hour. In our bodies, as in the engine, damage is certain to follow from the accumulation of waste and the disproportion between intake, work done, and output.

To bear out the statement made by some observers that meat-eaters are more prone to arteriosclerosis than others we have this fact; that, among the Indians and Japanese, who subsist largely on a vegetable diet, this disease is less prevalent than among others. In no way is blood pressure more surely heightened than by very severe muscular efforts prolonged over a great period of time. Here we have damage done to the cardio-vascular system, which produces hypertrophy of the heart, as is often seen in miners, and athletes.

Etiologically, then, there are three great causes of arteriosclerosis; the involuntary, in which the degeneration is caused by the ordinary wear and tear of life, and which is as natural as grey hair and failing eyesight; the toxic group, in which the degenerations are caused directly by the poisons of acute and chronic infections and intoxications; and the hyperperiptic, in which the degeneration follows persistent high arterial tension. In a man of 50 or 60, all of these conditions are usually present in greater or less degree. It is rare to find the arteries entirely free from

disease at any age, even in infants, while in the bodies of middle-aged persons some disease of the arteries is always present, and as a rule, the older the patient the more pronounced the condition becomes.

In arteriosclerosis the process of the disease may be much more advanced in some arteries than in others. For instance, the arteries of the brain may be stiff and hard while the arteries of other parts of the body may be much less affected; or, the coronary arteries may show extensive changes in the young while all other blood vessels may appear healthy. Recent research leads to the conclusion that in the ordinary type of arteriosclerosis, the primary lesion is in the media, either productive or degenerative.

Function is disturbed by arteriosclerosis in three ways. Lessened activity of an organ follows the disease in its progressive form, and there is lessened capacity for material work by that organ. The changes which come with old age are largely vascular. With a reduced blood supply the organ becomes less and less active, atrophy slowly but progressively comes on, and in turn may become firmer and harder. In old age every organ and tissue shows changes which may be attributed to arteriosclerosis. When the disease reaches the final and obliterative stage, if in an end vessel, necrosis follows in the territory supplied. Or, as so often happens, if it is in the peripheral vessels of the foot or hand, gangrene supervenes. Again, the disease renders the small arteries more prone to spasm than normal vessels. We have an example of this in the leg, the spasm being accompanied by pain and loss of function. The diminished volume of the pulse is readily perceptible. The foot becomes pale, with considerable pain, and muscular disability.

As has already been intimated in this paper, a patient may have no well-marked symptoms of this disease, and the condition may be met with in a casual examination, as for life insurance. It is a common experience with the trained clinician to find this disease in persons who look well and who are able to perform the duties of every-day life. Sudden death may be the first and only manifestation of the disease. Rupture of a blood vessel in the brain, thrombosis of one of the coronary arteries, rupture of a small aneurysm, acute dilatation of the heart—any one of these may carry off a man in whom there has never been any suspicion of an organic lesion. Natural death comes through the blood vessels. The description in Ecclesiastes of the gradual failure of the vital powers in man is an epitome of the clinical feature of senile arteriosclerosis. In a man who has led a very energetic life, has worked hard with his muscles, eaten much, drank rather freely, the palpable

arteries are thickened, the blood pressure heightened, an increase in the vigor of the cardiac impulse, the apex beat is a little dislocated outward, the first sound is thudding and prolonged, while the second is accentuated; such a patient may look to be a very robust man, and yet on careful examination we find the exact contrary. When these conditions are present under the fortieth year, they must always be looked upon as serious, although not necessarily fatal in the immediate future. Many of these patients at this age come to us suffering with neurasthenia, irritability, sleeplessness and emotional, probably the first time they have ever consulted a physician. The patient may present quite early in the disease, all the complex and varied manifestations of a nervous breakdown. In the more advanced stages, the cerebro-spinal features are among the most important and interesting. Headache is an early and distressing symptom, associated as a rule with high pressure, and often relieved temporarily by measures which reduce the high pressure. And just here, I would like to say that many cases of arteriosclerosis are overlooked, and these head symptoms assigned to some other cause.

Vertigo is another very common symptom and may become very distinguishing, although usually temporary and never of the severity of that associated with Menier's disease. One of the extraordinary cerebro-spinal manifestations of the disease is the occurrence of attacks of transitory disturbance of function of parts of the brain or cord, leading to hemiplegia, monoplegia, aphasia, or even paraplegia. Osler makes mention of a case in his last work which I think is worth repeating here. A man about forty years of age awoke one morning to find himself unable to speak, or to use his right hand. This condition had been preceded by one attack of slight palpitation of the heart and shortness of breath. The paralysis passed away in twenty-four hours and he recovered his speech almost as quickly. He had more than a dozen of these attacks, some lasting a little longer than others, but with complete recovery from each attack, and this was the first time the patient was known to have arteriosclerosis. I am inclined to the belief that cases of this kind are not rare, especially where the disease predominates in the cerebral vessels. The attacks are sudden and recovery is complete in most of this class of cases. We should remember that their transitory nature with complete recovery and the extraordinary frequency of the attacks, puts cerebral hemorrhage, embolism and thrombosis out of the question, and therefore, the condition must be an angiospasm similar to that which produces manifestations of Raynaud's disease. Convulsions of an epi-

leptiform character may occur and, in the absence of syphilis and lead poisoning, convulsions occurring in middle aged persons should always excite suspicion of arterial hardening. There are three important groups of causes in which the dominant symptoms of arteriosclerosis arise from affections of the heart; the valvular, myocardial and coronary. In a considerable number of aortic and mitral valve lesions, the insufficiency is due to a process in the segments identical with that which goes on in the vessels. In general arteriosclerosis gradual failure of the hypertrophied cardiac muscle is a common and serious event, leading to the characteristic picture of dilatation and systole. In the case of the coronary arteries, the main branches, the orifices, or the smaller vessels may be affected.

Referring to the renal condition in this disease, there are two groups to be considered; that associated with the small contracted kidney, following acute nephritis, or coming on insidiously in gout or chronic lead poisoning, in which there is an extreme grade of arterial hardening which must be regarded as secondary; and the true arteriosclerotic kidney, which is the red, beefy organ, firm, hard and dark in color, somewhat enlarged in most cases. From the general appearance of the man not much can be learned of his actual condition. A robust, vigorous man in the prime of life may have vessels in the most advanced stages of this disease. The active muscular business man of 45 or 50 years who never in his life had to spare himself and who has prided himself on his fitness for any and every thing, is shocked to find suddenly there is something wrong with his machinery; and to the young-old man who has reached the grand climacteric period without a day's illness, Nemesis whispers "time is up."

The cardinal points in a case of arteriosclerosis are usually well marked. Thickness of the peripheral vessels, signs of an hypertrophy of the left ventricle shown by the apex beat being dislocated outwardly, heightened blood pressure, slight and variable albumin in the urine. As a rule this quartet of symptoms is present in a large number of cases when they first come under observation of the physician, and at this stage let me say, the damage has already been done and is beyond repair. The important part, therefore, for the physician to learn is to be able to recognize the disease in its early stages when there is some chance that its progress may be checked. By palpation we are able to judge with fair accuracy the degrees of the thickening of the vessel wall, but it requires not only experience, but education of touch to form an accurate judgment of the state of the arteries. A perfectly healthy vessel when contracted may feel cord like. On the other hand, in a

radial artery definitely thickened, but in a state of extreme relaxation, the hardening of the artery may escape detection. The introduction, in late years, of clinical instruments for measuring blood pressure, has given one important method of estimating accurately the condition of the arteriosclerotic patient early in the disease or before the thickening of the vessel is evident. The blood pressure may be persistently high. The pre-sclerotic stage, as it is called, is important to recognize and yet it is not always true that we are able to trace all the stages in a given condition.

As for treatment I shall be brief. Once degeneration, fibrosis, and calcification have taken place, medical measures cannot restore the normal structures of the arteries; but this does not mean that the condition is always absolutely hopeless, for much may be done to prevent the sclerotic condition from increasing and much may be done to relieve symptoms. The treatment may be carried out along the following lines. First, I should say in general, the patient should be urged to live as peaceful a life as possible, cutting off all sources of mental strain and worry. A protracted holiday, as it were, may be most helpful. But it is not wise, as a rule, to urge a man to give up business entirely, especially the man who has led an active business life, for too often this is followed by neurasthenic breakdown, but the most important, as well as the most difficult, part of the treatment is to so arrange a man's life that he may have moderation in everything pertaining to his every day life. So long as the patient's duties can be lightened there is no reason why he should not continue. As a matter of fact when there are signs of cardiac failure, or if the mental changes are plainly marked, it would be wise to urge complete rest. Such patients require the conscientious advice of friends and physician, for many men on hearing from a physician that they have disease of the arteries are inclined to become despondent and give up hope, when under proper advice, they may have a good many years of usefulness before them. Arteriosclerosis, when recognized early in a man forty or fifty years of age, may not shorten his expectancy more than five or six years; provided, however, he is given good advice by his medical adviser and is entirely willing to live the remainder of his life according to that advice. Proper exercise is of importance in the management of this disease. Golf, horseback riding, walking, bicycling, all in moderation, are advantageous. Relaxation of the vessels of the skin and of the parietal arteries generally, which follows moderate exercise, lowers the blood tension and relieves the heart, while all sudden efforts likely to throw a strain on these vessels should be

avoided. The action of the skin should be promoted by a daily bath. The one great and essential factor in the diet of arteriosclerotic patients is a reduction in the amount of food taken. He should be taught to gradually reduce his food supply until he finds the minimum amount with which he can maintain mental and bodily vigor, and he will often be surprised that one-third or even less than the amount he has been accustomed to consume is sufficient. He may take a cup of tea and a boiled egg, a couple of slices of toast for breakfast; a vegetable soup with a rice pudding for luncheon; a piece of fish, a couple of vegetables, stewed fruit, with a glass of milk, for dinner. With a diet along these lines an arteriosclerotic may hopefully pray the prayer of Hezekiah of old, and get, like him, a fifteen year extension. He can do without meat perfectly well. Oysters, eggs in moderation, and fish may be taken with plenty of fruit, vegetables, bread and butter with plenty of milk, these articles all being especially easy of digestion. Buttermilk and sour milk are a favorite diet with many of these cases and are found to act remarkably well; and, in this connection, it is interesting to note the strong opposition of Metchnikoff as to the value of the lactic acid products in preventing abnormal processes of fermentation in the large intestine. Spirits of all kinds should be taken in moderation and a man who has been a hard smoker should reduce his allowance to two or three cigars a day.

Of remedies believed to have a direct influence upon the coats of vessels, iodide of potassium alone is of special value. It is stated, and probably correctly, that arteriosclerosis can be prevented, experimentally, if, coincidentally with adrenalin, iodide of potassium is given to the animal. In all syphilitic cases it should be given very freely and even in other cases the drug should be given in moderate doses, fifteen to twenty grains three times daily and kept up for several months. It is believed that iodide of potassium lessens viscosity of the blood and in that way lessens the work of the heart. The blood pressure is much more efficiently lowered by proper diet than by drugs.

Of the drugs which have an important influence the nitrites are the most useful. The commonly used nitroglycerine is often effective, but usually is given in too small doses. Sodium nitrite, in one to four grain doses every three or four hours, has a more permanent action and is often of greater value. Arsenic in small doses is helpful, especially in cases of anaemia. In the crises of hypertension, brisk saline catharsis is most helpful. In all cases it is well to bear in mind that the only valuable measures for permanent reduction of blood pressure are the hygienic

and dietetic, and as Hippocrates taught more than 2,300 years ago, the most we can do is to assist nature in preventing the patient from becoming worse.

DISCUSSION.

Milton Board: I have some well defined ideas as to the management of certain cases of arteriosclerosis. We must bear in mind that we have to deal with a condition of the peripheral vessels as the result of an hypertrophy of the left heart, and I do not believe that we have any therapeutic agents of any particular value, unless it be iodide of potassium in selected cases. I do believe that absolute rest is imperative, and it is remarkable what the actual rest cure will do for a great many cases of the worst form of this condition that we are called upon to treat. The patient should be placed in bed and kept there for a month, or two months. This gives the heart less work to do, the patient does not consume much food, and assimilates what he does take. The results from this treatment in many cases is surprising. Of course, this treatment can be carried out in an institution to greater advantage than in a private home, because many times these patients will not take sufficient rest. Drugs that stimulate the heart do harm, and in this connection I wish to condemn all forms of electrical treatment. I have never seen a patient treated by galvanism or faradism, or any of the newer forms of electricity, that was not made worse.

Gaylord C. Hall: I wish to thank Dr. Morris for the splendid paper he has given us. One point that I wish to call attention to is the value of the ophthalmoscope in the diagnosis of arteriosclerotic changes, especially in the brain. I had a case in a woman, 62 years of age, who had pronounced cerebral symptoms, accompanied by vertigo, and on several occasions she had lapsed into unconsciousness, remaining in that condition for half an hour in one instance. Practically all of her cerebral functions were in abeyance. She was sent to me to determine whether or not these symptoms indicated a needed change in her glasses. After going over her refraction and finding no change necessary, I made an ophthalmoscopic examination of the fundus and found the characteristic evidence of arteriosclerosis. In this case, the increased tortuosity of the retinal veins had not advanced sufficiently to give them a beaded appearance, which is another characteristic feature of these cases. More than that, the arteries themselves show a light-streak on either side, are somewhat contracted, and where they cross the veins the circulation of the latter is cut off. These conditions are absolutely characteristic of arteriosclerotic changes. Later, we may have rupture of these hardened arteries and hemorrhage. While these symptoms are not absolutely pathognomonic of general arteriosclerosis, still if we find the terminal vessels of

the retina so diseased, it is pretty strong presumptive evidence that the same condition exists in the cerebral vessels, although it does not follow that this is true of the peripheral vessels all over the body.

S. G. Dabney: I wish to indorse what Dr. Hall has said in regard to the value of the ophthalmoscope in the diagnosis of arteriosclerosis. The books usually divide the eye symptoms into three stages. In the first stage we have increase in the light streaks alongside the arteries, and interruption of the continuity of the veins where they are crossed by the arteries; in the second stage, the increased tortuosity and beaded condition of the blood-vessels, and, in the third stage, hemorrhage of the retina. These stages indicate different degrees of arterial change in the retina. One or two other conditions are also found at times, one of the most interesting of which is thrombosis of the veins. This used to be considered as embolism, but it is now generally conceded that it is a thrombotic condition. Retinal spasm also occurs at times, and it has fallen to the lot of several men in this country to have had an opportunity of examining the retina, during a spasm. It is said to show a contracted condition of the blood vessels, corresponding with the diminution in the patient's sight. This spasmodic condition of the retina very often precedes thrombosis of the retinal vessels, and both of these conditions are apt to be the result of arterial changes.

Another evidence of arteriosclerosis which is often seen by the eye and ear men, is nose-bleed, which is a very important symptom. I have seen a number of cases of nose-bleed in persons past fifty years of age, in whom it was the first indication of a condition of arteriosclerosis. I never see a case of nose-bleed in a person past middle age that I do not have the urine analyzed and the blood pressure taken. In this condition it plays a double role, being partly a symptom and partly a remedy, because it tends to relieve a more serious condition.

We also frequently see tinnitus aurium as a manifestation of arteriosclerosis. Occasionally though not often, there may be some difficulty in distinguishing between vertigo due to labyrinthine disease and that caused by arteriosclerosis.

Andrew Sargeant: I wish to thank Dr. Morris for the excellent paper he has given us.

The problem of life is one of nutrition and elimination, and it is frequently a very difficult matter to tell which of these is at fault. It is also a difficult matter to tell whether the increased blood pressure in arteriosclerosis is a disease *per se*, or whether it is a protective process of which Nature undertakes to protect diseased organs from the excessive pressure of the circulation, or from infective material in the blood by furnishing it in diminished quantity.

I am sorry that the essayist did not mention

the sphygmomanometer. I have had some experience with it and in the further discussion I wish some one would be kind enough to tell us of their experience with the sphygmomanometer in this condition.

Ben Carlos Frazier: It has been my fortune to have seen quite a number of these cases recently. I think everything that has been said in regard to the value of drugs in this condition is true. I do believe, however, that the bromides, in conjunction with the iodides, are of benefit in some cases, especially elderly people in whom there is a certain amount of irritability present, and who are unable to sleep because of nightmare, restlessness, etc. Such cases are considerably benefited by the bromides.

Fritz O. Askenstedt: I have listened to see how many points Dr. Morris would cover in his paper, as the subject is a very big one.

In a disease that is incurable and progressive, the proper treatment is to remove the cause, and especially in arteriosclerosis we should ferret out the cause, as far as possible, and remove it. We know that blacksmiths are prone to develop arteriosclerosis in the arms; letter-carriers have a tendency to arteriosclerosis of the lower extremities; brain-workers of the brain; those who indulge in excesses in eating and drinking develop arteriosclerosis of the splanchnic arteries, and we know that even in mitral regurgitation or mitral stenosis, the high pressure in the pulmonary arteries is the result of arteriosclerosis there. So, there is no doubt that over-functioning of itself becomes a cause of arteriosclerosis. We quite frequently find that a local arteriosclerosis has very little effect upon the general circulation; that the heart is normal in size and the arterial pressure nearly normal, with the possible exception of arteriosclerosis of the brain, where the vasomotor center of the medulla does not receive a sufficient blood supply, which, of course, causes a higher arterial tension.

The increased blood pressure and hypertrophy of the heart that we find in general arteriosclerosis, indicates a general toxemia, such as alcoholism, errors in diet, auto-toxic conditions, etc. We should determine, from the symptoms, what causes the condition, whether local or general, and endeavor to remove the cause, and when we have done this we have carried out the most important part of the treatment of these cases.

O. H. Harris: The paper was a very scientific one and beautifully written. I believe that, if we could eliminate arteriosclerosis from the ills to which the human race is heir, half of the doctors would have to go out of business.

We hear so much about syphilis in connection with arteriosclerosis; nearly every man who has anything to say about arteriosclerosis mentions syphilis. If it is true that syphilis is the principal cause of arteriosclerosis, then the majority of the human family must have the latter disease.

Some syphilographers claim that, in the course of time, the entire human race will be immunized against syphilis by virtue of the disease being transmitted. I believe that, in the main, it is an hereditary condition. Nearly all the deaths that have occurred in my family have been due to arteriosclerosis. It has been said that a man is as old as his blood vessels, and I believe that there may be an hereditary tendency toward degeneration of the blood vessels. It depends largely upon what sort of material the individual is made of in the beginning. As a matter of course, over-eating, alcoholism, excessive use of tobacco, etc., with poor material as a basis, would be apt to bring about more pronounced changes.

I agree with Dr. Morris that the tragedies of life are largely due to arteriosclerosis. What could be more tragic than the case of the man who has hemorrhage into the internal capsule and drags one leg all the rest of his life? What could be more tragic than the people who fill up our insane asylums? I believe that a great many cases of insanity are due to arteriosclerosis of the brain. I am at present attending a physician who is suffering from arteriosclerosis, with a blood pressure of 160. That man is insane at the present time—temporarily, I believe. Just as soon as the blood pressure is reduced he gets better.

We all eat too much. I think the human body is comparable to the action of an ordinary stove. We put fuel into the stove to produce heat and energy, and as a result of the combustion certain by-products are formed—ashes, which goes into the ash-box, and smoke which goes up the chimney. This is analogous to the action of the human body; we put in food to produce heat and energy and the by-products are thrown off by the enunctories—the bowels, kidneys and skin. When we eat too much the enunctories become clogged, and as the result on the part of Nature to eliminate the excrement, the blood pressure is raised, which finally results in changes in the blood vessels themselves.

In my opinion, nitrite is of considerable value in this condition. I speak of nitrite, not nitrate, or soda. It should not be given in one or two grain doses, but in doses of five to ten grains, three times a day, at the same time cutting down the amount of food taken. Also, prolonged baths, of an hour or more, in hot water, will reduce the blood pressure, especially in the aged. I believe, too, that the bromides have a very favorable influence upon patients who are suffering from emotionalism, and disturbed circulation in the brain, brought about by arteriosclerosis.

This is a big subject and it does us good to think about it.

Hugh N. Leavell: It is an interesting subject that Dr. Morris has brought before us to-night.

* If we take into account the five factors that have to do with the regulation of the circulation of the blood, we will recognize that at least

two of these are materially interfered with by arteriosclerosis. We can readily understand how we may have myocarditis as a common change; furthermore, the hardening of the blood vessels interferes with the peripheral circulation. Therefore, we have obviated at least two of the factors that go to make up the normal circulatory apparatus, and, this being true, it would appear that when arteriosclerosis begins we might as well throw up our hands and give up the fight. As a matter of fact, it is not quite so serious at that, but we do recognize that it is an ineradicable condition after it has gotten a good hold upon the mechanism.

I disagree with some of the therapy that Dr. Morris has suggested; namely, the use of adrenalin chloride associated with iodide of potassium. It may be that adrenalin chloride, contracting the blood vessels and subsequently dilating them, brings about greater resiliency of the vessel walls, but I would hesitate to use it in persons past middle age with marked arteriosclerotic changes. I believe the constant use of the iodides is better than any other drug, but it should be given in small doses, an hour after meals, and long continued.

After all, the keynote of the subject was sounded by Dr. Askenstedt when he said that we must ascertain the cause and remove it. We recognize that over-eating, over-indulgences, loss of sleep, etc., are perhaps more important causative factors than anything else. When we take into account the fact that, once the blood vessels have hardened and undergone fibrosis, involving the muscular coat, which of necessity is the resilient part of the artery, we can readily understand that we are up against a hard proposition so far as a cure is concerned.

J. M. Morris, (Closing): I wish to thank the gentlemen for their kind discussion of this paper.

In regard to Dr. Leavell's remarks, I will say that I did not mention adrenalin chloride in connection with the treatment of arteriosclerosis; I simply stated that it had been used, experimentally, to produce this condition.

THE USE OF VACCINES IN THE TREATMENT OF GENITO-URINARY CONDITIONS.*

By HERBERT BRONNER, Louisville.

We believe that vaccine therapy is here to stay. Although vaccines, or, more properly, bacterins, have been in use several years now, work along this line is still in its infancy. With greater skill in the technique of the preparation of the vaccines, with greater accuracy in the determination of the exact causative organism, with a better knowledge of

the indications for the use of the vaccines—which, of course, can only be acquired by the study of many cases, and lastly, with a clearer idea of dosage and interval, the usefulness of this form of therapy will be wonderfully enhanced.

It must be remembered in the beginning, that vaccine therapy is not a "cure-all." Its most sanguine supporters have never claimed it to be such. Those men have gotten the best results who regard the vaccine as a most useful adjunct in the treatment of disease.

The deleterious effects of bacteria on the body may be exerted in one of two ways. Some organisms produce the poisonous substance from the media on which they grow; in other words, the blood serum. These toxins, or exotoxins, are soluble, easily diffused throughout the body, and are responsible for the symptoms present in the disease. The *Klebs-Loeffler bacillus* is the type of organism which produces an exotoxin.

A far larger class of organisms produce the poisonous substance without themselves, and these substances are called endotoxins. The endotoxins are not diffused in the blood stream, and are only freed by the death and disintegration of the bacteria. The *staphylococcus* and *streptococcus* are types of this class of bacteria.

In the diseases due to the first class of bacteria, the chief danger to the infected individual is from the toxins. In such cases an antitoxin neutralizes the poison and, therefore, produces passive immunity. In diphtheria, for example, where the bacteria produces 90 per cent. soluble toxin, and only 10 per cent. endotoxin, an antitoxic serum is the ideal therapeutic agent.

There are, however, only a few conditions where antitoxic sera are available. The majority of bacteria produce the baneful substance within themselves, and in these cases antitoxic sera are of little or no aid. For example, the *streptococcus* produces about 90 per cent. endotoxin and 10 per cent. exotoxin. In such infections it can be readily seen that an antitoxic serum would have little value.

To combat the endotoxins, we must overcome the bacteria themselves; in other words, we must resort to active immunity in contradistinction to the passive immunity acquired in such diseases as diphtheria. Nature's defensive forces against the last class of diseases are unquestionably varied, but it is believed, by a large class of observers, that phagocytosis plays a most important part in overcoming these infections.

Sir Almroth Wright is one of those who believe that phagocytosis is one of Nature's greatest agents in combating infection. After a most exhaustive study of this subject, he reached the conclusion that there are cer-

*Read before the Muldraugh Hill Medical Society, Elizabethtown, Dec. 14, 1911.

tain substances in the blood which prepare the bacteria and render them susceptible to the action of the leucocytes. "Without such preparation the leucocytes are unable to ingest bacteria, and this defensive power of the organism is in abeyance." These substances in the blood serum, which as so essential to phagocytosis, Wright calls opsonins. He found that the opsonins varied within wide limits, especially in disease, and coined the phrase "opsonic index" to express this. Synnott defines opsonic indexes, "the expression of the measure of the phagocytic power produced in a sample of washed leucocytes by the serum of the individual in question, as compared with the phagocytic power in a similar sample of leucocytes by the serum of one or more healthy individuals." The index is expressed as a fraction of units. If one says that a patient has an opsonic index of .5, to the colon bacillus, it means that he has but half the number of opsonins necessary to combat the infection.

Wright went one step further, and discovered that the injection of sterile suspension of dead bacteria, corresponding to the infecting agent, caused an increase in the number of opsonins, thus increased phagocytosis, and in this way strengthened one of Nature's chief defensive agents against a large class of infections.

This class of therapy is called vaccine, or inoculation therapy, and confers active immunity upon the patient in contrast to the passive immunity conferred by the anti-toxic sera.

As stated before, vaccine therapy is not to be regarded as a panacea. It is essential that the proper disease be selected for vaccine therapy. The more localized the infection, the more decided the results which will be obtained. In those conditions where the bacteria are in the blood stream and systemic symptoms are marked, as in septic endocarditis, vaccines, if used at all, should be given in very small doses, and controlled most carefully by the opsonic index.

In this paper we will consider only those infections of the genito-urinary tract due to bacteria other than the gonococcus and the tubercle bacillus, in order not to make its scope too great. These infections will include those due chiefly to the colon group, the staphylococcus, and streptococcus. We have now used vaccine therapy sufficiently long to have come to the conclusion that, in many suppurative conditions of the genito-urinary tract due to these organisms, where there is not a definite abscess formation, or where there is not some obstructive intervention, either sure or marked amelioration may be expected from vaccine therapy.

The first essential in the use of vaccine ther-

apy is accuracy in diagnosis. We have endeavored most carefully to determine, in each case, the nature of the invading organism. Our observation in this respect corresponds closely to that of others—the enormous preponderance of the colon bacillus in these infections, especially in the upper part of the urinary tract.

In the cases of pyelitis, the colon bacillus was almost invariably present. In these cases occurring in the female, the infection may have been ascending in character, the shortness of the urethra and the proximity of the external genitals accounting for this type of infection. Those cases occurring in the male, however, can hardly be accounted for in this way, and must have been either haematogenous in character, or by contiguity from the intestine, etc.

In the cases of chronic prostatitis of long standing, the colon bacillus was also found at times, frequently accompanied by the staphylococcus.

In the mixed infections of tuberculosis of the bladder, kidney and prostate, the colon bacillus was found almost invariably, and was a greater factor in the causation of fever, as results showed.

In several cases of cystitis, post-operative in character, the colon bacillus was found in pure culture. This was especially so in several cases in the female where the retention catheter was used, following the operation of perineorrhaphy. These cases all respond to the use of the colon vaccine.

One case of chronic cystitis, in the female, was only partially relieved by an operation for retroversion. An examination in this case revealed a pure culture of colon bacillus. Here again the *modus operandi* was plain. The retroversion caused a chronic congestion of the bladder, and this congested mucous membrane formed a splendid culture ground for the ubiquitous colon bacillus.

The staphylococcus was found in several cases of pyelitis but never alone.

In the cases of chronic prostatitis, especially of long standing, it was found to be the most prevalent organism. The work of the late De Santos Saxe Notthaft, and others, have absolutely shown that, the older the prostatitis, the less likelihood of finding the gonococcus and the more likelihood of finding other organisms, especially the staphylococcus. Saxe found the staphylococcus in 74 per cent. of cases of chronic prostatitis. The futility of endeavoring to cure these old cases of prostatitis without making an attempt to overcome this infection is evident.

In the mixed infections of tuberculosis, whether of the bladder, kidney or prostate, the staphylococcus was usually found. In several cases of chronic urethritis the staphy-

lococcus was found to be the prevailing organism.

The streptococcus was found in several cases of pyelitis, usually in combination with the colon alone, or the former two. It was also found in the tuberculous cases.

Having determined just what organisms are responsible for the condition at hand, the next question which arises is as to the type of vaccine which is to be used—whether a polyvalent stock vaccine, or an autogenous vaccine. On purely theoretical grounds, an autogenous vaccine ought always to be used, but there are, unquestionably, cases where the time that is needed to make an autogenous vaccine would be an important factor, and in these cases a good polyvalent vaccine will be found to be very efficacious. In the very acute cases of pyelitis, the several days needed to make a vaccine would cause a rather trying delay in treatment. In these cases we have used the stock vaccine, and our results have been most striking. In none of these cases was it necessary to employ an autogenous vaccine later. Even in the acute colon infections we have seen remarkable results from a good polyvalent stock vaccine, although it is said that, particularly in the infections due to the colon group, an autogenous vaccine is indicated, because of the varied strains of the organism.

In the chronic cases, on the contrary, where time is not a factor, we always employ an autogenous vaccine. In these cases, the organisms are often very numerous, and change from time to time. In the mixed infections of tuberculosis, and in the cases of chronic prostatitis, we always use an autogenous vaccine, having a fresh supply of vaccine made after using six doses of any one supply.

The matter of dosing is a most difficult one for which to formulate any rules, and we believe that each man will have to determine the dose for the case at hand, after careful observation of the clinical phenomena in many cases. Following the dosage by the opsonic index is impracticable for the average practitioner, for the determination of the index requires a high degree of laboratory skill, the consuming of a great deal of time, and a decided expense to the patient.

In streptococcal cases we have usually begun treatment with small doses, while in most colon and staphylococcal cases we have not hesitated to use fairly large doses. Ross' rule is a very good one to remember: "The more severe the case, and the less satisfactory the clinical response, the smaller the dose."

The character of the negative phase is often helpful in determining the dose. If the negative phase is absent or exceedingly short, and is followed by a very short and slight positive phase, the dose has been too small. When the

negative phase is prolonged and the symptoms are decidedly increased, the dose has been too large. When the negative phase is of moderate degree, yet decisive in character, and, as a rule, not longer than 24 hours duration, and is followed by a good positive phase of several days duration, the dose has been correct.

In the second instance—that is, where the symptoms of the negative phase are exaggerated, as evidenced by repeated chills, high fever, great frequency of urination, pain, etc., the interval should first be lengthened and then the dose reduced. In our experience, as before mentioned, the best results are obtained in those infections where there is a decisive negative phase, of about 24 hours duration. The symptoms of this phase may be constitutional or focal. The former may consist of a rise in temperature, even a slight rigor, malaise, aching feeling, and headache. The focal symptoms will, of course, depend upon the lesion. In kidney conditions, there is tenderness over the affected organ, increased frequency of urination, and pain. In prostatic cases there is fullness in the gland, pain at the end of urination, referred pain, etc. We have found that in tuberculous cases especially, great care must be exercised in dosage so as to avoid a prolonged negative phase. We have selected the following cases from our records as illustrating the types of infections in which vaccines were employed.

CASE I.

T. U., age 16. Diagnosis, right-sided acute pyelitis. Patient had a chill on July 31st, 1911, followed by high fever, frequency of urination and excessive pain on voiding. Saw patient in consultation on August 2nd, 1911. Temperature at 8:00 a. m., 101; pulse 100.

Examination revealed decided tenderness over right kidney, with pain radiating down the ureter. Examination of urine showed pus in great abundance, highly acid, 1-2 per cent. albumin. Bacteriological examination of specimen showed colon bacilli, staphylococci and streptococci. Because of the severity of the symptoms, it was decided to use a polyvalent stock vaccine. Vaccine given at 10:30 a. m. At 4:30 p. m., temperature 103.2-5; pulse 110.

August 3rd. 8:00 a. m., temperature 101; pulse 100. 4:00 p. m., temperature 101.1-2; pulse 94. The patient looked very badly.

August 4th. 8:00 a. m., temperature 100; pulse 90. 4:00 p. m., temperature 101; pulse 92.

August 5th. 8:00 a. m., temperature 99; pulse 82. 4:00 p. m., temperature 100; pulse 86.

August 6th. 8:00 a. m., temperature 98.6;

pulse 72. 4:00 p. m., temperature 99.4; pulse 76.

August 7th, 8:00 a. m., temperature 100.5; pulse 80. 4:00 p. m., temperature 101.5; pulse 90.

Urine examined this day showed less pus, colon bacilli, few staphylococci and streptococci. As there had been a slight rise in temperature, we decided to give another dose of vaccine.

August 8th, 8:00 a. m., temperature 101.2; pulse 80. 4:00 p. m., temperature 102.1; pulse 90.

Vaccine was given at 10:30 a. m.

August 9th, 8:00 a. m., temperature 98.1; pulse 72. 4:00 p. m., temperature 99.2; pulse 72.

August 10th, 8:00 a. m., temperature 98.4; pulse 72. 4:00 p. m., temperature 98.6; pulse 72.

August 11th, 8:00 a. m., temperature 98.6; pulse 72.

Examination of urine showed no albumin, much less pus, and no colon bacilli; subjective and objective symptoms all cleared up. This patient felt so well at this time that he refused to take any more vaccine, although we advised that several more doses be given, explaining to the patient that cessation of symptoms does not necessarily mean thorough eradication of the infection. Examination of urine, August 16th showed: Specific gravity, 1015; no albumin, only an occasional leucocyte; no bacteria.

This case represents a typical acute pyelitis. The effect of the vaccine here was most striking; the ideal negative and positive phases are shown most beautifully.

CASE II.

Miss O., age 28. Patient gave a history which indicated a chronic pyelitis, with remissions. At the time we first saw her she had had a severe chill; her temperature was 104. Urination was very frequent; excessive pain on voiding, especially terminal pain referred to the meatus; great prostration. The right kidney was very tender to pressure. Examination showed colon bacilli and streptococci, and pus in abundance. Both streptococci and colon vaccines were used. Decided reaction after the first dose; moderate reaction after the second; little reaction after the third dose. Improvement in symptoms was rapid and consistent. No symptoms after the third dose, but patient consented to take three additional doses. This patient has never had a recurrence of symptoms. She has since become pregnant and has manifested absolutely no renal disturbance.

CASE III.

Mrs. E. Clinical history almost precisely

the same as in previous case. Bacteriological examination showed a pure culture of colon bacilli. We used a stock vaccine in this case with most satisfactory results, eight doses being administered.

Especially in colon infections, the vaccine should be used long after the clinical symptoms have disappeared, as it is most difficult to eradicate a bacteriuria due to the colon bacillus.

CASE IV.

Mr. F., age 61. Patient has sustained a fracture of the right arm and the left thigh, which confined him to bed a long time. During this period he developed decided urinary symptoms. After taking numerous drugs internally and having the bladder washed out, for several weeks, we saw him in consultation, in February, 1911. He was voiding every hour in the day time, and four or five times at night. There was pain at the end of urination. Patient had lost a great deal of weight and there was great mental distress. Examination showed that there was no stricture, the urethra accepting a large sound with ease. The searcher revealed no stone. The prostate was not enlarged. There was slight tenderness over both kidneys. Examination of urine revealed pus in abundance, a few hyaline casts, 1.4 per cent albumin, and a pure culture of the colon bacillus. The patient's son has failed to preserve a very interesting chart. Suffice it to say that, after four doses of vaccine, which caused a rather decided reaction after the first dose, with temperature of 102.1-2 for one day, and only very mild reactions after the other doses, the condition cleared up most satisfactorily. This was a bilateral pyelitis of low grade. Whether the trauma lessened the tissue resistance and the colon bacilli then made a ready inroad, it is impossible to positively state.

CASE V.

Mrs. C., age 22. This patient was in the sixth month of pregnancy when we saw her in consultation. She had a chill, followed by fever and excessive sweats. There was great frequency of urination and pain. Examination of urine showed large quantities of pus, colon bacilli, and streptococci. The vaccine was used in this case with splendid results, the patient getting four doses of the combined vaccines. This patient has since been delivered of another child, with no recurrence of symptoms.

This is an example of pyelitis of pregnancy. Dridgen and Ross prefer to speak of these cases as the "pyuria" of pregnancy, and they likewise do not hesitate to administer vaccine to a pregnant woman.

CASE VI.

Mrs. M., age 35. This patient had been operated upon by one of our prominent surgeons, the procedure being a perineorrhaphy, trachelorrhaphy and suspension of the uterus. A retention catheter had been introduced and allowed to remain several days. The temperature did not drop to normal. There was nothing about the wounds to account for the continued fever. When the catheter was removed, the fever persisted and urinary symptoms developed. Urotropin was given and bladder irrigations were used, to no avail. We saw the patient in consultation on August 26th, 1911. At this time she was voiding very frequently, both day and night, great pain accompanying each act. There was tenderness over the hypogastrium and over the right kidney; expression anxious; tongue coated. Examination of urine showed a trace of albumin, pus in abundance, pure culture of colon bacillus. We advised the use of colon vaccine, and we append the morning and evening temperatures in this case, as we believe it to be sufficiently interesting.

August 26th, 7:00 a. m., pulse 100; temperature 100 1-2. 5:00 p. m., pulse 110; temperature 103 1-2. Vaccine given at 5:00 p. m.

August 27th, 7:00 a. m., pulse 96; temperature 100. 5:00 p. m., pulse 96; temperature 101 1-2.

August 28th, 7:00 a. m., pulse 90; temperature 98 1-2. 5:00 p. m., pulse 90; temperature 99. Patient feeling much better in every way.

August 29th, 7:00 a. m., pulse 90; temperature 98 1-2. 5:00 p. m., pulse 96; temperature 98 1-2.

August 30, 7:00 a. m., pulse 90; temperature 98 1-2. 5:00 p. m., pulse 92; temperature 99.

August 31st, 7:00 a. m., pulse 86; temperature 98 1-2. 5:00 p. m., pulse 86; temperature 98 1-2.

September 1st, 7:00 a. m., pulse 86; temperature 98 1-2. 5:00 p. m., pulse 90; temperature 99.

September 2nd, 7:00 a. m., pulse 86; temperature 98. 5:00 p. m., pulse 90; temperature 98 1-2.

September 3rd, 7:00 a. m., pulse 86; temperature 98. 5:00 p. m., pulse 86; temperature 99. Dose of vaccine given to-day.

September 4, 7:00 a. m., pulse 86; temperature 99. 5:00 p. m., pulse 90; temperature 99 1-2.

September 5th, 7:00 a. m., pulse 86; temperature 98 1-2. 5:00 p. m., pulse 86; temperature 99.

September 6th, 7:00 a. m., pulse 80; temperature 98. 5:00 p. m., pulse 84; temperature 98 1-2.

September 7th, 7:00 a. m., pulse 86; tem-

perature 98. 5:00 p. m., pulse 86; temperature 98 1-2.

September 8th, 7:00 a. m., pulse 80; temperature 98. 5:00 p. m., pulse 80; temperature 98 1-2.

By this time the patient had absolutely no symptoms, urination being normal both day and night. We advised further injections, but she insisted upon going home. We have since heard from her attending surgeon that the patient is doing well.

This was unquestionably an example of ascending infection, the bladder, and later the pelvis of the kidney, being involved. The trauma caused by the continued presence of the instrument, acted as a predisposing cause, the ever-present colon bacillus being the exciting cause. Dodgen and Ross state that "It is now known that most of the cases of 'catheter fever', which have been examined bacteriologically, are the subjects of an infection of the urinary tract. The bacterium concerned has either been the bacillus coli, the bacillus proteus or some allied organism. Treatment with a vaccine prepared from the infecting organism, in some instances, permitted the subsequent passing of catheters or sounds without causing untoward symptoms, and in other cases acted as a preventative of rigors."

CASE VII.

Mr. J. B. T., age 60. Patient had had urinary symptoms for years. Was operated upon in another city for supposed calculus of the bladder. No stone was found, but a persistent perineal fistula remained. Patient came under our observation in June, 1911. At that time he complained of excessive frequency of urination, both day and night, voiding as often as every ten or fifteen minutes; excessive pain during and at the end of urination. Patient was having frequent rigors, with temperature ranging from 101 to 103.

Examination of urine showed tubercle bacilli in abundance, colon bacilli, staphylococci and streptococci. We advised out-door life, nourishing diet, etc., and began the use of an autogenous vaccine in order to immunize the patient, if possible, against the mixed infection. This patient has now been under this regime for several months. He no longer has chills or fever, has gained 25 pounds in weight, holds urine now at least one hour, and has comparatively little pain. We will continue the use of the autogenous vaccine until the mixed infection is fairly well under control, and then begin the use of tuberculin.

CASE VIII.

Mr. W. This patient has had both testicles operated on for tuberculous disease, on the left side an epididymectomy being done, and on the right, a complete castration, with a

high division of the vas, the latter wound having never healed at the time we first saw him. This patient later showed decided urinary symptoms. When we saw him, in September, 1911, patient was voiding every thirty to forty minutes, with terminal pain; temperature 101 to 103, frequent rigors. Examination showed a very nodular prostate and some involvement of the seminal vesicles. Examination of the urine revealed tubercle bacilli, colon bacilli, staphylococci and streptococci. This was plainly a case of ascending tuberculosis of the bladder. We advised, in this case, the use of autogenous vaccine and the outdoor treatment. Patient had a very prolonged negative phase after the first dose, necessitating a reduction of the dose the next time. This patient has been getting the vaccine now for two months. He has gained 20 pounds, looks very well; temperature about normal, urinates once an hour, and the wound over vas has healed. We shall carry on the same line of treatment as in the previous case.

CASE IX.

Mr. T. Complained of frequent urination during the day time, also getting up once or twice at night; pain in the perineum and referred pains in the back, testicles and groin; some pain also on ejaculation; patient very nervous and depressed. Examination showed a very tender, enlarged, nodular prostate. By massaging the gland, a large quantity of purulent fluid was expressed, which showed pus and organisms, chiefly staphylococci—plainly a case of chronic prostatitis. Not responding to massage, irrigation, dilatation, etc., we began the use of an autogenous vaccine several weeks ago. Frequency, pain, depression have all vanished, although the urine is not yet clear and the massage fluid still contains pus. We shall persist in the use of the vaccine until no culture can be obtained. We believe that massage and irrigations should be used along with the vaccine in this case, because by massage we improve the circulation in the gland, and thus bring more of the medium which contains the leucocytes to the parts.

CASE X.

Mr. G. Patient had a slight urethral discharge and a perineal fistula. Examination of the urethral discharge and the discharge from the fistula showed only staphylococci. Examination with a bougie revealed no stricture. There was no enlargement of the prostate. Patient had had a gonorrhea with probably an abscess of Cowper's gland, the latter condition accounting for the fistula. Irrigation failing to accomplish anything, we used the staphylococci vaccine. Six doses were ad-

ministered. The fistula closed and has remained closed for three years.

CASE XI.

Mr. R. Patient had dull pain in perineum and persistent pus in urine. Examination revealed a large, boggy prostate. The expressed fluid showed pus in abundance and staphylococci. After being under our care for two weeks, this patient left the city for a long trip. During this time he developed an acute exacerbation of the prostatic trouble, characterized by frequency of urination, pain and slight haematuria. Upon returning to the city, as soon as the acute symptoms had subsided, we instituted the use of an autogenous vaccine, with massage. At the present time all symptoms have subsided, the urine is clear, and the fluid expressed by massage fails to show bacteria.

The foregoing cases will illustrate, in a measure, some of the lesions in which vaccine therapy will be found beneficial.

In conclusion, we may state that:

1. Vaccine, or bacterin, therapy is a most useful agent in the treatment of certain genito-urinary conditions.
2. It is essential to make an accurate diagnosis, and to determine, as carefully as possible, the offending organism.
3. The dose should be such as to give a decisive negative phase of not more than 24 hours duration, followed by a good positive phase.
4. The vaccines should be used after all symptoms have cleared up, as bacteremia may persist even after these symptoms have disappeared.

THE FACTORS WHICH CONTRIBUTE TO SUCCESS IN MODERN SURGERY.*

By JOHN R. WATHEN, Louisville.

In accepting the invitation to present a paper before this society, composed as it is of general practitioners from the country districts as well as specialists from the cities, I have endeavored to prepare a paper which would discuss those topics of interest to all of us.

The great success of modern surgery, especially in those centers where large clinics have developed, can be clearly traced to factors which only a few years ago, did not enter into a consideration.

The intimate association of good pathologists and clinical diagnosticians having perfected laboratory facilities, with the surgeon in his modern and well equipped operating rooms, has aided much in allowing operations

*Read before the Muldraugh Hill Medical Society, Elizabethtown, Dec. 14, 1911.

to be performed with success which only a few years ago were considered the impossible.

When men of national or international reputation report to-day their mortality as a certain per cent. for some new operation, we should not think for one moment that this low mortality can be even approached by the average operator and much less if his facilities for work are not the equal of the best.

This is a day when organization and system have demonstrated what can be done in any line of activity, and in surgery it is no less true.

The individual operator, no matter how skillful or how learned, has to be aided by modern hospitals and have associated with him others as aids who are trained to his own methods, what we have come to term teamwork, is the secret of success.

And furthermore the time has arrived when even in the narrow specialties there will arise men who are more proficient in certain operations than their fellows who are doing the same general lines of work.

The profession and the public are fast recognizing such to be the case and are referring their cases to no one surgeon for every operation; but rather picking certain surgeons to operate for certain special conditions.

This method works no hardship on any one, for instead of giving each operator a great variety of work, gives him the same number of cases, but most of the kind he has devoted the most time to and is from his increased experience better able to perform.

We are accustomed to associate the names of our most prominent surgeons with the line of work which has made them famous. Their names are synonymous with the diseased condition with which they have most worked.

If asked to name the most important factor which contributed to success in modern surgery, I would unhesitatingly answer that it consists in the preparation of our patients before operation.

By this is understood the careful diagnosis and preliminary treatment, examination of the urine, the functional activity of the kidneys, from collected specimens from each kidney obtained by ureteral catheterization, etc., all of the utmost importance in many cases.

The X-ray diagnosis and the von Pirquet skin reaction for tubercular lesions are all of immense value.

The patient's heart, blood pressure and differential blood counts are now always considered before any difficult or dangerous surgical procedure.

It is not my purpose to go into details concerning each of the examinations as they should be familiar to all and I wish to discuss more general subjects.

It would not be far from the truth if I

were to say that about two-thirds of the cases for operation which come to the city from the country arrive on the afternoon train accompanied by their family physician and an early operation on the following morning in order that the doctor can return home and lose as little time as possible from his work at home.

This is hardly an exaggeration and is only too often the case for the best results.

Would it not be far better for the physician to send his patient to the surgeon and after he has carefully gone over the case, made analyses and examinations as needed, then let the surgeon notify the family physician and with little loss of time he could be present at the operation.

This would bring a result far better for both the patient and the doctors.

Another important factor for success is for the anaesthetic to be administered by one who practically does nothing but this class of work. The time has long since passed when any Tom, Dick or Harry should be allowed to attempt this most important part.

Likewise the anaesthetist should be equipped for all the various types of anaesthetics and be well paid for first-class service.

A large percentage of my cases I am now operating upon under nitrous-oxide gas and oxygen administered together with a special apparatus.

The habit of some surgeons to run to the country to do any and all classes of operations when they receive a call has placed those surgeons on the basis of the itinerant spectacle fitters who travel far and wide.

Of course there are exceptional cases of emergency which demand operations at the patient's homes in the country, but it is safe to say that 90 per cent of the so-called cases could be far better treated if brought to a well appointed hospital and well cared for after by the surgeon himself than left to the unaided family physician at home.

If a surgeon has any practice it is very difficult for him to leave a dozen or more cases in the hospital; cases which need his attention; to go to operate on one other out of the city.

With increased transportation facilities as we now have there is little or no excuse for cases to be operated upon in the country.

The mortality for these operations done at the homes is alarmingly high and it only brings surgery into bad repute.

Nor is this work appreciated or paid for as in the case when brought to the large city infirmaries. When a patient is too sick to be brought to the city, I believe that they are too sick to be operated upon in their home where the after-treatment will not be the best.

Nowhere is this truer than in the modern treatment of bad cases of appendicitis when

the Fowler-Murphy proctoclysis after treatment method is a necessity to save the patient's life.

And lastly, let us consider another very important factor for success, i.e., the advising surgical aid in the earliest stages of the disease and not waiting until all hope of a radical cure has passed.

Cancer and many other surgical conditions are curable if diagnosed and removed by a timely operation. It is the seeing of the delayed cases and the attempts to cure by operation that has often brought surgery in disrepute.

The laity judge us only by the results and it behooves us to have the lowest possible mortality and the largest percentage of permanent cures.

The diseased conditions which are now treated with success by surgery, but which formerly were considered as belonging to the internist, are even increasing and the field for newer operations and better results is ever widening.

The future depends upon the proper co-operation between the family physician and the surgeon, and any exchange of ideas from either for the general betterment of conditions should be most welcome.

CLINICAL CASES.

REPORT OF CASES.

By F. T. FORT, Louisville.

CASE I.—NEUROPLASTY OF THE MEDIAN NERVE; EXHIBITION OF PATIENT.

Patient M. T., colored; age 26, admitted to the City Hospital July 9th, 1911, at night. She had been cut across the right upper arm, transversely, and was bleeding profusely when the ambulance was called for her. She was taken to the hospital and two of the internes, Dr. Arnold and Dr. Clark, ligated the brachial artery and put a splint on the arm. The next morning when I examined her at the hospital I found that, in addition to the severance of the brachial artery, the median nerve had also been severed, as there was paralysis of all the muscles receiving their nerve supply from the median nerve. As there was every chance of infecting the wound, I would not attempt to re-open it and bring the ends of the nerves together. Another consideration that led me to defer suturing the nerve was the fact that collateral circulation had not thoroughly established itself. The radial pulse was completely gone and the arm cold and this, together with the chance of infection, caused me to defer going after the nerve until a later date. Three weeks later the wound had entirely healed,

with the exception of what is termed a skin sinus at the site of the injury. We anesthetized her, took her to the operating room, and cleansed the sinus with 1-1000 solution of bichloride. After the application of tincture of iodine and normal saline, we made an incision, found the median nerve, cut down to the end of it and verified the fact that it had been severed. Then I tried to find the distal end but was unable to do so until I brought the incision down, located the median nerve below and traced it upwards, the two ends being nearly three-fourths of an inch apart. Grasping the ends of the nerve with forceps, it was brought up from its bed and gentle traction made. I then cut the ends off and applied a through and through suture of No. 0 twenty-day chronic catgut, and three small silk sutures through the sheath of the nerve, drawing it together. The wound was closed without drainage, the arm flexed at right angles with a posterior plaster of Paris splint, and the patient put to bed. She remained at the hospital fifteen days after the operation, wearing the posterior splint. I saw her two days ago for the first time since she left the hospital. To-day she came to my office and I took her to Dr. Ravitch, who tried the faradic current on the arm and got a feeble response from the flexor muscles which are supplied by the median nerve, on the anterior surface of the forearm. I am inclined to believe that in the course of the next two years she will get a useful hand. I believe it is a fact that in those cases where the operation is deferred, the time required for restoration of the nerve is much longer than where it is done immediately. This patient can pick up a handkerchief, but has really very little grip. Sensation is more or less completely restored. I hope to make a continued report of this case later.

CASE II.—DOUBLE RESECTION OF INTESTINE FOR GUNSHOT WOUND IN A CHILD SIX AND ONE-HALF YEARS OLD; RECOVERY

Patient L. D., age 6 1-2 years; admitted to City Hospital July 28th, about eight o'clock in the morning. The history was that a little girl in her neighborhood had got hold of a 22 calibre rifle, loaded with a 22 "long," with the intention of shooting at some rats, and had accidentally shot this little girl, the bullet entering the body about 1 1-2 inches to the right of the umbilicus and coming out at the left of the coccyx, about 1 1-2 inches above the anus. She was in extreme shock, plus hemorrhage, and had very little pulse. She was hastened to the operating room and arrived there about nine o'clock. At this time the radial pulse was not perceptible. I had one of the internes prepare 600 c. c. of normal saline, with 15 drops of a 1-1000 solution

of adrenalin. Dr. Arnold gave the anesthetic and Dr. Clark assisted me in the operation. We made as rapid an entry into the abdomen as possible, and when the incision was made blood and fecal matter gushed out, showing that the patient had become exsanguinated. Dr. Melton opened one of the veins in the forearm and I asked him to give her 300 c.c. of the solution which he had prepared. The vein was very small, and after giving this infusion I told him to let the canula remain in the vein. Upon opening the abdomen the first thing we came across was this section, which, as you see, has several punctures. A clamp was put on and we did end-to-end anastomosis as rapidly as we could, paying especial attention to the mesenteric border and also making a mesenteric graft as it were, over that portion of the intestine where the mesentery was attached. The mesentery was brought up and sutured to the abdominal wall in front, covering as much of the anastomotic suturing as possible.

Upon reading the bowels a little further we came upon another perforated portion of the gut, I think it was the convolution just behind the first one resected, and it was necessary to resect this also. We took out four or five inches in one section and six or seven inches in the other. The same method of anastomosis was used and the mesentery fixed just as in the first instance. One or two additional isolated punctures were found which were closed with a purse-string suture. Prior to this, however, the patient had almost succumbed, and it was necessary to give her the other 300 c. c. of saline solution, 30 to 45 minutes after the first administration. After having completed the resections, and being unable to discover any more punctures, the bowels were washed thoroughly. I simply had the nurse pour in saline then introduced my hand and washed out the cavity the best I could, after which the abdominal cavity was filled with as much normal saline as it would hold, a drain inserted and the abdomen closed. The patient was then taken back to the ward and placed in bed, and I never expected her to rally again. However, by evening the pulse could be felt, the following day she was a little better, and on the second day she began to cry and cried almost continuously for three weeks. I do not think I ever saw a child cry so much. Nutrient enemias were given after the third or fourth day, and she did not get anything to eat until the twelfth day. About the first thing she was given was a small glass of beer. I tried to start her off on a little albumin water, but that did not suit her; she would not take panopepton, and I was unable to name anything that she could take until I mentioned beer, after taking which she began to get bet-

ter. I still thought she would die, however, until the 21st day, after which time I felt that there was some chance for her. She went along and made an uneventful recovery, and is now going to school. She was discharged from the hospital on August 31st. I called at her home to see how she was getting along this morning. The weather was too bad for her to go to school, but it was not bad enough to keep her indoors. She followed me to the car-line, a block distant, and then resumed playing with some other children.

CASE III.—GANGRENE OF THE UTERUS.

Patient C. C., colored; age 24; admitted to the City Hospital July 18th. She came in late in the afternoon or at night, giving a history that the bag of waters had broken something like a month previously, after which something had passed from her. It looked to us like a case of miscarriage. When she was admitted to the hospital, her temperature was 101 and she had a very foetid discharge from the vagina. Dr. Clark called me, and I told him to take her to the dressing-room, irrigate, and do a curettement. I went to the hospital to see another patient and arrived there just about the time he had this woman prepared, and made an examination. I could detect a mass on the right side, but thought it was some induration or tubal trouble connected with the abortion. We dilated the uterus, irrigated it and used spoon curett. She was put to bed and her temperature came down, as it usually does in a case of abortion. The next day she seemed to be in pretty good shape. On the 20th her temperature rose just a little, and she did not feel so well as she had the day before. That night I was called out of the city. About eight or nine o'clock she began to show evidence of a general peritonitis. Dr. Clark called Dr. Zimmerman, who saw the patient and made an exploratory incision. When he opened the abdomen this mummified foetus was found free in the cavity. I also exhibit the uterus, from the appearance of which it would seem that some one had tampered with the uterus, breaking the mucosa above, and that the pains had forced the foetus upward, dilating the fundus, and producing a gangrenous condition, or, that the fundus of the uterus was very thin and later became gangrenous and ruptured, allowing the foetus to go up into the abdominal cavity, followed by the development of a general peritonitis. The condition of this uterus feels almost like an hour-glass contraction. In doing the curettement, it felt just as the ordinary fundus does. Dr. Clark dilated sufficiently to get his curett in, but the uterus seemed to be fixed so that it could not be pulled down and the finger introduced. I believe that, had it been possible

to introduce the finger, the condition would have been recognized on the 18th, and operation would not have been delayed until the 20th, when it ruptured. The hour-glass contraction is just about midway of the uterine canal, and the space inside the uterus was just about as large as we usually find in a two or three months miscarriage. This is undoubtedly a case where the mucosa was broken, and the contraction of the uterus forced the foetus up into the fundus, making it thinner and thinner until finally it ruptured, and a general peritonitis ensued. Dr. Zimmerman did a Poro operation on the woman and she died three days later, I think, from exhaustion. She was probably about 6 1-2 months advanced in pregnancy.

DISCUSSION.

W. A. Jenkins: Just a word about this nerve case. I certainly think Dr. Fort did the right thing in this case, because it is a recognized fact that nerve regeneration is a possibility, provided the ends are brought together with the greatest care. I would suggest that, in this case, it would be a good idea to use both the faradic and galvanic currents, not too strong, every other day, about five minutes at a sitting.

J. Garland Sherrill: This is a very interesting series of cases. In regard to the nerve case, as has been said, it is almost impossible to prevent regeneration of a sensory nerve, while, on the other hand, it is a very difficult matter to get regeneration of a motor nerve, and yet we may succeed in doing this in a motor nerve, even after many months have elapsed since the ends were severed. The suturing must be done very carefully, although it is not always necessary to have the nerve ends directly in apposition. We may have a number of things between them; for instance, catgut, or a magnesium plate, and sometimes decalcified bone is used. A magnesium plate is considered the best because it forms a channel which will protect the nerve from interference by fibroblasts. If connective tissue fibres get in between the ends of the nerve, it will be difficult to get complete restoration of function.

I do not believe that the three weeks' time which elapsed between the injury and the operation in this case, will prevent restoration of function, unless degeneration took place much more rapidly than usual. In my opinion, not only should the faradic current be employed, as suggested by Dr. Jenkins, but the muscles supplied by this nerve should be stimulated by massage and friction, keeping them supplied with blood.

Bernard J. O'Connor: In my opinion, the most important case of the three reported, has been neglected in the discussion. Nerve surgery is not seen every day, but abortion cases are seen by all of us. The case mentioned by Dr.

Fort to-night is one of extreme interest, not only because of its rarity, but because of the fact that this patient had practically a double uterus, and the foetus was expelled upward through the thin layer of muscle and into the abdominal cavity.

One point that is impressed upon us by this case is that we should elicit a better history from these patients. In view of the history in this case, a larger uterus should have been shown by the curette; it should have reached a greater depth than it apparently did.

The question of septic abortion is one of the most important we have to deal with, especially in connection with curettage. Practically all of our very best authors are agreed that a sharp instrument should never be used in these cases; that only the dulllest kind of instrument should be used to remove portions of the afterbirth and other debris. The danger from a sharp curette is that all of the sinuses and blood vessels are opened up, so that the infection enters the vascular and lymphatic spaces, and in a short time, instead of a localized infection, we have a general infection to deal with. In cases of septic abortion where the offending organism is the colon bacillus, staphylococcus, etc., curettage is contraindicated. In an article by one of the very best authorities in Germany, he advises against the use of any instrumentation in cases of streptococic infection, even though some of the decidua structures still remain within the uterus. He holds that, in streptococic infections, it is better to wait until Nature has overcome the acute infection, and at a later date open the uterus and evacuate its contents.

B. F. Zimmerman: I think this case very forcibly emphasizes the fact that has been pointed out so many times, that we should not rely upon the curette but should use our fingers in all cases of abortion. In my opinion, it is the only way in which we can be absolutely certain that we have the uterus thoroughly clean, and the only way in which we can be absolutely certain that we are doing no injury to the uterus. These two facts, it seems to me, constitute sufficient argument against the use of an instrument in abortion cases. It is always possible to introduce the finger into the uterus in this condition.

I had not seen this case before I operated upon her. Dr. Clark made a diagnosis of general peritonitis, in which I concurred, and did an exploratory operation with the idea of establishing drainage. I was under the impression from the history that the foetus and placenta had passed, and that there was infection of the uterus which had resulted in a general peritonitis. Upon opening the abdomen in the median line we came immediately upon this bluish mass, which was somewhat confusing. I questioned whether or not we had a tubal pregnancy to deal with, but the tubes could both be palpated. Upon passing my hand below, I could feel the uterus which seemed

to be continuous with this mass, and in bringing it up the fundus simply tore away, and the foetus then made its appearance free in the abdomen. The odor was terrific, and was such as we usually get from gangrenous tissue. The abdomen was filled with pus. The hemorrhage was somewhat alarming, but this was controlled, and hysterectomy was then done.

It would appear that infection of the top of the uterus had occurred, which was very severe, resulting in a gangrenous condition, and the impaction of the uterine contractions upon the foetus forced it along the line of least resistance, which was through the gangrenous fundus of the uterus, and it simply pressed up and formed a sac above, which looked like a large gangrenous cyst on top of the uterus. Later it broke through the top of the uterus into the abdominal cavity, setting up a general peritonitis.

W. C. Dugan: I am glad that Dr. Zimmerman emphasized the fact that there is risk in using a sharp curette in these cases, although some have claimed that there is no danger of puncturing the uterus and getting into the abdominal cavity. I formerly used a sharp curette and thought that I could clean the uterus out thoroughly. On one occasion I did a curettage for another doctor, and about 48 hours later he telephones me that a three-months foetus had been discharged, although I was positive that I had emptied that uterus. Therefore, I believe that the only curette which should be used in these cases is the finger. We know exactly how much harm we are doing, if any, and we know positively when we have cleaned the uterus of its contents.

Edward Speidel: I would like to add a word to the discussion of this case. In cases of this kind, after the patient has been thoroughly anesthetized, the first thing that should be done is to insert the hand into the vagina and confirm the diagnosis, especially in a girl of this age, with a very thin abdomen. After the cervix is dilated, it should be easy to pass the finger into the uterus and ascertain whether or not it is empty.

In regard to curettage, I go even farther than the other gentlemen who have spoken. I think it is a great mistake that many of our standard text-books of the present day, after advising against the use of the curette in cases of abortion, end up by saying that "the only curette to use is the finger." In my opinion, emptying the uterus with the finger should not be termed curettage, and the books should simply advise against the use of the curette, and then say that the uterus should be emptied with the finger.

F. T. Fort, (Closing): I wish to thank the gentlemen for their liberal discussion of two of the cases reported. Nothing was said in regard to the double resection which I thought was the most interesting of the three cases.

As to the last case reported, I do not wish to be misunderstood in regard to the use of the cur-

ette. I do not believe that it is ever advisable to use a sharp curette in these cases, but I do believe, where we have a foetid discharge from the vagina, that irrigation, followed by curettement with a blunt curette will bring out debris that could not be obtained with the fingers.

Furthermore, it is a very hard matter to get a clear history from patients who come to the City Hospital. From the history obtained from this patient, I was led to believe that everything had passed. In the light of the termination of the case, I am satisfied that, in my examination with two fingers in the vagina (it was very hard to get the whole hand in, but I believe I did have it in after the patient was anesthetized), the mass that I felt was this distended necrotic fundus of the uterus, before it had ruptured.

I am glad that Dr. Zimmerman saw this case, for the reason that he hears out my own opinion of it. When the abortion was attempted the instrument was carried up far enough to injure the mucosa; then the rupture of the membrane let out some of the water and blood clots and the woman thought a miscarriage had taken place. Instead of this, however, there was what might be termed hour-glass contraction of the uterus, and when the pains came on they forced the foetus upward, against the fundus, which gradually became thinner and thinner until finally it ruptured. In using the spoon curette, when we thought we were scraping across the true fundus of the uterus, we were really against the contracted portion. Two days later this necrotic fundus became so weakened that it gave way, allowing the foetus and this putrid material to get into the abdominal cavity, causing a general peritonitis and necessitating immediate interference.

I would not call this hour-glass contraction as the term is used by obstetricians. It should rather be classed as a contraction filling up the body of the uterus and closing off the upper part.

SPLENECTOMY; EXHIBITION OF SPLEEN.

By IRVIN ABELL, Louisville.

The patient from whom this spleen was removed was a woman, 31 years of age; married, and the mother of one child eight years old. She has been married ten years. Shortly before her marriage she had suffered a fall from a haystack, and immediately following this she noticed the development of a tumor in the left side of the abdomen. After quite a long rest in bed this tumor disappeared, and during the succeeding eight months, during which time she bore a child, she had very little trouble except for occasional cramps, or colic, which usually subsided under rest in bed and the application of heat to the abdomen. Following her recovery from the birth of her child, she had, at irregular inter-

vals, attacks of colicky pain, with or without the appearance of a tumor in the left half of the abdomen. These usually subsided upon rest in bed and the application of heat. None of them were severe enough to require an opiate for the relief of the pain, and none confined her to bed longer than 36 hours until the one during which she came under observation. Five months previous to coming under observation she again became pregnant, the pregnancy being an unusual one in that she continued to menstruate regularly, having menstruated three weeks prior to coming to the city. She had suffered quite a good deal of discomfort since the pregnancy began, and during the menstrual period three weeks previously she had suffered cramps in the abdomen to such an extent as to necessitate confinement in bed for the entire three weeks. During these cramps the tumor again became very apparent, on the right side of the abdomen. When she was brought to the city her temperature was ranging from 100 to 101; pulse 90. The tumor could be made out distinctly and was apparently attached to the upper portion of the uterus, as I was unable to dislodge it from the right side. My own opinion was that, barring the possibility of an abdominal pregnancy, I was dealing with an ovarian tumor with a twisted pedicle. After getting her under an anesthetic the tumor could be made out very distinctly, and I still thought that I had to deal with an ovarian tumor, but upon opening the abdomen I found this spleen twisted twice upon its pedicle. The veins were enormously enlarged. The specimen still shows the tremendous dilatation of the veins. Dr. Baldauf was kind enough to make a microscopical examination of the specimen and found that the enlargement of the spleen was due chiefly, not to genuine hypertrophy, but to an increase in connective tissue stroma.

Difficulty in removing the spleen was experienced because of its close association with the tail of the pancreas, the pancreas being pulled around in the shape of a horseshoe so that its tail was to the right of the median line, and because of the infiltration and adhesions it was a difficult matter to identify and separate them without injury to the pancreas.

After the operation the woman's pulse settled down to normal and her further recovery was uneventful.

An examination of the blood, made before giving the woman an anesthetic, showed the following: Hemoglobin, 65 per cent.; red cells, 4,000,000; white cells, 12,000; practically but little change in the character of the cells; lymphocytes increased; transitionals, 4 per cent.; neutrophils, 66 per cent.; eosinophiles, 4 per cent.

This woman has had no trouble since going to her home and apparently—so her doctor thinks—is getting along as well as one could expect.

Upon looking up the literature upon wandering spleen, as it is termed, I found that quite a number of cases had been reported.

Bessel-Hagen reports a total of 43 cases of splenectomy for wandering spleen, with 40 recoveries. Schwartz reports a case similar to my own, in which a wandering spleen with a twisted pedicle was removed from a woman 36 years of age, at the fifth month of pregnancy, the latter suffering no interruption as a result of the operation. Asa B. Davis also reports a splenectomy for wandering spleen with twisted pedicle, occurring in the course of a pregnancy, without interruption to the latter.

There has been quite a bit of discussion relative to the preference of splenectomy or splenopexy. Several ingenious procedures have been devised with the idea of affording an anchorage for the loose organ. Among these, the most stable depend upon a niche in the peritoneum, or in the muscle structure of the lateral abdominal wall, placing the spleen therein and suturing the peritoneum closely around its pedicle. When a case of splenic prolapse comes to operation previous to the time of important change in it or its pedicle, the consensus of opinion at the present time seems to favor splenopexy. If, on the contrary, as in the case reported to-night, you are dealing with a twisted pedicle which has produced material enlargement of the spleen, and organic change in its pedicle, the operation of splenectomy, affording, as it does, a relatively safe recovery and sure relief, is to be preferred to any attempt at retention.

The spleens which have been removed owing to a twist of the pedicle, come under two classes; either acute torsion, in which event there is more or less gangrene, with more or less marked splenic degeneration; or, as in the case reported to-night, where from the history the torsion had existed between two and three weeks, and there is material increase in the connective tissue stroma, with marked organic change in the pedicle.

DISCUSSION.

J. Rowan Morrison: The enormous dilatation of the veins is certainly a very interesting feature of this specimen. Last summer I saw a spleen removed which, while not exactly of this character, had a pedicle not quite as long as the one Dr. Abell has exhibited. This woman had a mitral heart lesion and the congestion caused by this spleen gave her a great deal of pain, and the spleen was removed for that cause. In this case the spleen was covered with large quantities

of fibrin, a sugar-coated, or lardaceous spleen. Dr. Abell's specimen has not that appearance.

W. C. Dugan: I wish to congratulate Dr. Abell upon the successful termination of his case. He did exactly the right thing. In these cases of wandering spleen, especially where it is rotated upon its pedicle, the only thing to do is to remove it. An interesting complication of this condition was the attachment of the spleen to the pancreas. We find that referred to a number of times in the literature, and several fatalities from splenectomy have ensued from dealing with this attachment to the pancreas. Therefore, we must be very careful in dealing with this condition, just as Dr. Abell was in his case.

J. Garland Sherrill: I have been very much interested in this case. The diagnosis, of course, could hardly have been settled except by operation. I am especially interested in the subject because of the fact that I recently had a case in which I made diagnosis of the spleen lying in the lower portion of the abdomen, just above the brim of the pelvis, in a male. It is apparently very much increased in size and extends up half way between the pubic bone and the ensiform. Although somewhat mobile, it is held down in that position. After careful examination I came to the conclusion that this was the spleen, which had greatly enlarged, dropped down toward the pelvis and become attached. I recommended its removal and the patient said he would come back for operation, but he did not come and I learned that he had had very little trouble from it since that time.

As Dr. Dugan has said, I think Dr. Abell's management of this case was the proper course. If the spleen is enlarged and out of its normal position, very little can be gained by suturing it back in position. It will constantly sag down, and I think it is better for the patient to have it removed.

Geo. A. Hendon: Bearing more directly upon the feasibility of splenectomy, I wish to briefly report a case that I saw in 1905. I examined this patient for some unidentified tumor in the abdomen which I thought was an enlarged kidney, but upon making an anterior incision I found it to be an enlarged spleen which, when removed, weighed about five pounds. Microscopical examination was made by Dr. Hays, who reported it to be sarcoma of the spleen. That has been six years ago and the patient has enjoyed good health ever since, seeming not to be inconvenienced by the loss of the spleen. She made a good operative recovery.

Guy P. Grigsby: I would like to mention a case that I saw during my service as an interne. This was not a pathological condition but was the result of a bullet wound of the spleen, and the point I wish to particularly bring out is in regard to dealing with hemorrhage in such cases. This patient was a robust young fellow, who had been shot between the tenth and eleventh inter-

spaces on the left side. When brought to the hospital he showed no signs of shock or hemorrhage, but by the time we got him upon the examining table there was evidence of hemorrhage into the abdominal cavity. The abdomen was opened as soon as we could get the patient to the operating room. It was found that the spleen had been almost cut in two by the bullet, but no injury to any other viscera could be detected. The operator decided that the best way to get him off the table alive would be to control the bleeding by suturing the spleen, which he did, using catgut and apparently controlling the hemorrhage.

There was another very interesting feature of this case. The anesthetist was interrogated several times as to the condition of the patient, and each time reported that he was getting worse and worse, and finally stated that he was dead, the pulse and breathing having ceased. Being in close proximity to the heart, the operator decided to try massaging that organ. He did this through the diaphragm and, much to our surprise, the heart resumed its function, respiration was restored, and the patient actually came to life again. Towards the close of the operation, the operator again resorted to heart massage, the abdomen was closed and the patient was put to bed alive, but died on the second day, I presume from extreme exsanguination, despite everything that could be done including the repeated infusion of saline solution. Autopsy showed that there had been no further bleeding from the spleen. I think this case would have been a splendid one for direct transfusion, but this measure was in the experimental stage at that time.

C. W. Karraker: I would like to mention a case that I saw in the City Hospital at Detroit, during my service as an interne. A Polish woman was brought in with a large abdominal tumor. We were unable to obtain any history from her, but the staff surgeon determined to operate the next day, thinking she had a large cyst. During the night the patient died, and post-mortem revealed a rupture of the spleen, with a large quantity of coagulated blood in the pelvis.

SYPHILITIC TUMOR OF THE LIVER; REPORT OF CASE.

By J. GARLAND SHERRILL, Louisville.

In April, 1911, I presented this case to the society, and a full report of it will be found in the September 15th issue of the Jefferson County Number of the JOURNAL.

I have kept this man on inunctions of mercury up to the present time, and for some weeks he has been on the iodide of potassium, taking four teaspoonfuls of the saturated solution (approximating half an ounce) a day, and I have urged him to make it even more than this. In addition to this he receives an

inunction of mercury once a day. An interesting feature of the case is the material decrease in the size of the tumor which has taken place.

Some one has asked whether or not the Wasserman reaction has been made in this case. Dr. R. Hays Davis very kindly made this test for me in the primary study of the case, and I have not thought it wise to make one since that because he has been under active treatment all the time. At that time, however, Wasserman reactions made by Dr. Davis and by Dr. Cyrus Field, of New York, were reported negative. In this connection, I will say that one-third of the cases of syphilis of the liver, reported by D. M. Coplin in which the Wasserman test was made, gave a negative reaction.

DISCUSSION.

W. C. Dugan: I remember Dr. Sherrill's report of this case very well, and I must confess that I was mistaken in my views. I had no idea that this was a syphilitic tumor at that time. I remember having suggested that a Wasserman reaction should be made, not knowing that it had been made and was negative. He stated just now that the test had not been made since putting the patient upon active treatment. It is my understanding that the Wasserman reaction will be obtained after the administration of iodide of potassium in these cases, and when the doctor has another test made I should like to hear the result. I am certainly glad to have seen this patient again.

W. F. Boggess: To show the fallacy of diagnosis in these cases, I would like to mention a case that was brought here from Owensboro a number of years ago. I saw this man and I think Dr. Cartledge and Dr. Bullitt also saw him. This patient had a tumor in very much the same location as in Dr. Sherrill's case, and we all decided that it was a sarcoma of the liver and inoperable, and told the boy's father to take him back home and make him as comfortable as he could. He then fell into the hands of one of our homeopathic friends who began the use of iodide of potash and mercury, with the result that the tumor entirely disappeared.

I think possibly we have syphilitic tumors of the liver more frequently than we suppose. I would say that, if there is any special field for salvarsan, it would be in this condition. If this patient has not been given salvarsan, I should think it would be worthy a trial.

E. S. Allen: I can see no reason why we should not get a positive Wasserman reaction in a gummatous condition of the liver, where there is an active syphilitic process going on. I think the so-called syphilitic livers in which we get a negative reaction are really cases where the syphilitic toxin has become inert, the growth of fibrous tissue stimulated, and the tumor is

simply an overgrowth of fibrous tissue. In such a condition we would hardly expect to get a positive Wasserman reaction, but in a gummatous condition of the liver, with an active syphilitic process going on, I see no reason why the Wasserman reaction should not be positive in every case. We know that in active syphilis, where large doses of iodide of potash are given, it seems to liberate the encapsulated syphilitic areas. Therefore, I should think that, after giving this patient large doses of iodide of potash, having discontinued mercury for a few weeks, a positive reaction should be obtained.

J. Garland Sherrill, (Closing): I have not tried salvarsan in this case, wishing to first confirm my diagnosis and then to show the verified diagnosis to the society. Having done this I am now willing to have some of my friends try treatment with salvarsan.

I have been watching this patient rather closely and trying to keep him on active treatment, but during the early part of the treatment he dropped out of my sight for three weeks during which time he said he had not been taking the treatment. He has done so well under the combined treatment that I have been loath to make a change, but I think it would be well worth while to try an injection of salvarsan and see if it will not have a more rapid effect upon this growth. It has certainly been decreasing very rapidly during the past month.

HYPERNEPHROMATA; EXHIBITION OF SPECIMEN.

By WILLIAM H. WATHEN, Louisville.

This specimen is a large, so-called hypernephromatous kidney removed this morning at St. Anthony's Hospital, from a woman 36 years old, referred to me by Dr. J. M. Morris.

Five years ago she began having blood in the urine, but it was not abundant and would not continue at any one time for more than a few days, and sometimes did not return for many months. The intervals gradually grew shorter, and at each recurrence the blood was more abundant and continued longer. Recently blood has been in the urine almost continuously; sometimes abundant, again just enough to stain the urine, with an interval of from a few hours to two days. The urine was sometimes nearly the color of pure, fresh blood, but at no time were any clots of blood present.

During these five years she had enjoyed relatively good health, and until recently had lost but little flesh; at this time being comparatively spare, weighing about 110 pounds, her normal weight being about 140. While the loss of blood and flesh had materially changed her general appearance, she had no cachexia, or any symptom that indicated well

developed malignancy in any organ or structure. She was cheerful, ate well and slept well, and was never confined to her bed except when during the presence of much blood in the urine, she was advised by her attending physician to remain in the recumbent posture.

Dr. Morris had seen her but a few times during the five years, and had not until four weeks ago made a careful examination. He then outlined a large tumor in the region of the right kidney extending from under the ribs down to crest of the iliac spine and two inches below and an inch to the left of the umbilicus. The anterior surface of the tumor was even and relatively soft, while the posterior surface was inelastic, irregular and hard. The tumor was easily movable with apparently no adhesions. Pulse and temperature normal.

The findings in the urinary analysis by Dr. E. F. Horine are as follows:

"Quantity in 24 hours, 944 c.c.; color, reddish brown; sp. gr. 1.019 (corrected); reaction acid; sediment present; serum-albumin present; glucose absent; urea, 14.16 gms; blood present; bile absent; total solids, 41.8 gms.

Microscopically the urine contained a few conical and caudate epithelial cells and squamous cells; no crystals; an occasional hyaline and granular cast; erythrocytes; pus cells; no tubercle bacilli."

The bladder functions were not disturbed, the urine was passed at proper intervals, and was about normal in quantity.

Diagnosis, hypernephroma, and as no metastasis could be detected, the removal of the kidney through an abdominal incision was advised. The diagnosis was based upon the direct subjective and objective findings from which could be excluded primary carcinoma or sarcoma and renal calculi or tuberculosis, about the only disease to be considered.

In a pathological examination by Louis B. Wilson, of 40 tumors of the kidney, 32 were hypernephromata, 2 sarcomata, 3 papillo-adenocarcinomata, and 2 flat-celled carcinomata secondary to stone. It will thus be seen that finally about the only tumor to be excluded was carcinoma, secondary to stone. Stone may exist in a kidney for an indefinite time and cause symptoms similar to the symptoms in this case, but an error in diagnosis would hardly occur unless carcinoma developed in the later stages and this is so rare as to be hardly worth considering. Of course stone could be excluded by the X-ray. Primary carcinomata or sarcomata could not continue in a kidney for five or more years. Tuberculosis was excluded by the size and physical characteristics of the tumor and the absence of bladder irritation and involvement, always

present before the involvement of the kidney is suspected. Then the hemorrhage is often absent and seldom great in quantity, also the absence of bacilli as shown in the examination of the urine.

An incision was made over the tumor in the outer border of the rectus muscle. The right lobe of the liver was in front of and to the inner side of the kidney, and extended two inches below the umbilicus and over under the left rectus. The liver was not adherent, was soft, and no metastasis in it or any abdominal structure. The left kidney had by compensatory hypertrophy increased one-fourth in size and was apparently normal, and there was no stone in the pelvis or ureter. An incision was made through the outer border of the mesentery of the hepatic flexure of the colon, and the kidney, the size of a child's head, carefully enucleated and removed after doubly clamping the pedicle. The ureter and the renal vessels were ligated with No. 2 chromic gut. There was but little loss of blood. The excess of peritoneum with much of the fatty capsule was removed and all exposed surface covered by suturing the cut edges, entirely obliterating the cavity from which the kidney was removed.

She left the operating room with no shock and a normal pulse, and is in the same condition now.

The belief that hypernephromata have their origin (Crawitz) in adrenal rests, or (Stoerk) from proliferation of the adult secreting epithelium of the convoluted tubules, has not, and probably cannot be proven by any embryologic, histologic and pathologic working hypothesis. By considering these tumors of embryonic mesothelial origin, we can better explain than by any other hypothesis, their final sarcomatous character, histologically and in their mode of dispersion.

While further research may in a degree modify this belief as to the etiology of so-called hypernephromata in nephrogenic rests, of Wolfian origin, in the cortex of the adult kidney, at this time no other hypothesis is so satisfactory or explains so much. I think it may be clearly stated that hypernephromata always arises from embryonic remains in the cortex of the kidney, and in their origin have no relation to the adrenals.

They are manifestly more frequent than are all other tumors of the kidney, they are less rapid in growth than the primary carcinomata or sarcomata, and while if permitted to long remain, extensive metastasis results, if the diagnosis is timely made and the kidney removed promptly, the permanent result will be good.

CONTINUED REPORT.

The patient continued after the operation in nearly a normal condition, having but lit-

the elevation of temperature or acceleration of pulse. She made an uninterrupted recovery, and left the Hospital on the eighteenth day, feeling, eating and sleeping well. She is now much improved in her general appearance. She has gained flesh, has no pain, and the urine is normal in quantity and quality.

The following excellent pathologic report by Dr. E. F. Horine confirms the ante-operative and operative diagnosis:

PATHOLOGIC REPORT BY E. F. HORINE.

The specimen, a kidney, weighed 384 gms. Upon bisecting the organ, a tumor 7 cm. in diameter was observed occupying the center and projecting into pelvis of kidney. A yellow coloration was noted and blood exuded from the cut surface. The tumor was apparently entirely surrounded by a connective-tissue capsule. Specimens from various portions were hardened in alcohol and embedded in paraffin.

Hæmorrhagic areas were noted in all sections. The cells comprising the tumor were large, polygonal in shape and contained nuclei which exhibited considerable affinity for hæmatoxylin. Numerous large cells with multiple nuclei were observed. The cells were, for the greater part, grouped in masses and were surrounded by varying amounts of connective tissue. In some areas the tumor cells formed apparent alveoli, the alveolar lumen being filled with blood.

Diagnosis—Hypernephroma (malignant).

The hemorrhagic character mentioned above is of very frequent occurrence in hypernephroma and at times this characteristic may be so pronounced that only by careful search through numerous specimens can unaltered portions be observed. In the present case unaltered portions were found, but not without exercise of care in going over the specimens.

The discomfort and dangers attendant upon renal calculus are too serious to warrant any treatment but the most radical.

Few measures have proven as serviceable in erysipelas as ichthyol in 10-20 per cent. solution, or ointment.

Dazzling diamonds and loud talking vests are not as essential to professional success as some of the younger urologists seem to think.

Do not permit the withdrawal of a filiform whose introduction has given great difficulty, until it has remained within the urethra sufficiently long to well open the contracted point.

REPORT OF THE JEFFERSON COUNTY MILK COMMISSION.*

The Milk Commission makes its sixth annual report and desires to say that the Commission's work has grown proportionately with the amount of dairy products produced, and this has entailed an increased amount of work in the Secretary's office. We recently have taken in a new dairy, making seven under the Commission's supervision.

The early part of the year the milk from one of the dairies ran such a continued high bacterial count that the dairyman was suspended for some weeks, in fact, he was not allowed to resume delivery until he had shown conclusively, after several bacterial counts were made, that he could produce milk complying with the Commission's requirements. It is interesting to say that the trouble was found in sterilization plant, and after he put in a new sterilizer his count has been persistently low; and there has been absolutely no trouble from that dairy since. During the heated period of the summer there was very little trouble in keeping bacterial content low.

One of the most serious problems we have had to contend against is the butter-fat content of the cream. We have had a number of the dairymen unable, apparently, to keep the butter-fat up to 20 per cent. (Commission's requirements), and after investigating the question pretty thoroughly, we found it a hard matter for the dairymen to so set a separator that it will insure a uniform fat content. If they set it so as to run 20 per cent., or over, they are afraid that they will lose money by producing a cream too rich in butter-fat. If it is set with the idea of producing exactly 20 per cent. it frequently will run just a little below, so you can see that it is really a pretty nice point for the dairymen to overcome, and to fulfill the requirements of the Commission, and still not cheat themselves. The Commission has made a new requirement, that is, the minimum butter-fat must be 20 per cent. in cream.

In annual tuberculin testing and re-testing, we found only two reactors in all seven herds, both of which were slaughtered, and one of these failed to show any tubercular lesion—the first one that was killed that had reacted that did not show the tubercular process somewhere.

Your Secretary attended the American Association of Medical Milk Commissions in Philadelphia last May, and (with all due modesty) I think the Jefferson County

*Read at the Annual Business Meeting of the Jefferson County Medical Society.

Medical Society's Milk Commission had as good report as was made during the meeting.

At the National Dairy Show at Chicago recently, No. 6 Certified Dairy won first premium, both on milk and cream, and was given the highest score ever given by the government. Milk 99.4. Cream 98.8.

The American Milk Commission will meet in Louisville the latter part of this coming April. The Commission would like to urge all the members of this County Society to attend these meetings if possible. The Milk Commission has been able to maintain itself, and would have a small surplus in the treasury if the dues to the Commission were paid. The Secretary has some trouble in collecting these dues occasionally, but there has never been any loss.

Very respectfully submitted,
BEN CARLOS FRAZIER, Secretary.

BOOK REVIEWS

The Internal Secretions and the Principles of Medicine.—Two volumes, by Charles E. De M. Sajous, Fourth Edition, 1911, F. A. Davis Co., publishers, Philadelphia, Pa.

The first volume of this work was published in 1902, the second in 1907. Revisions were made in 1908, 1909, and the last in 1911. As nearly a decade has elapsed since Sajous work was given to the profession, an acquaintance with it of a large part of the profession is assumed. That he has devoted many years of conscientious labor; that he has brought into that labor the richness of a great experience, the logic of an analytical mind, the style of a ripe scholar, and the enthusiasm of an original investigator, is but stating well known facts. If it was thought, by the conservative at the time of the first publication, that the enthusiasm of the author carried him rather far afield, subsequent investigations by both the author and others laboring in this hitherto rather untilled pathological biology, must have convinced him that Sajous was in reality a pioneer in this particular contribution to normal biology.

The fundamental principles upon which the author's views are based may he tersely told: The thyroid supplies the blood with a secretion which sustains the functional activity of the anterior pituitary body. The pituitary gland stimulates the secretory functions of the adrenals through the suprarenal nerves. This trio constitute a system through which cardiac action, respiration, and general cellular oxidation are maintained. Optimistic though the author is, he says of his conclusions, submitted in the second volume, in the preface to the third edition: "The work introduces no elixir of life, no universal panacea," pleading, rather, for an intelligent acquaintance with, and the judicious use of, reme-

dies old in service, but with the pharmacological action of which too large a number of doctors are too little informed.

The chief interest centers around Volume I, in which a close analytical study of ductless glands in morbid processes is found. The most important change in this last edition is the elimination of practically 400 pages which had been devoted to a discussion of the physiological aspects of the thyroid gland, and replaced by a discussion of what the author deems of more practical value to the practitioner; in other words, he has elected to assume that his postulates are accredited, and that the elementary principles and laboratory findings are no longer necessary. Chapters 3, 4, and 5, for instance, are entirely new material, and are devoted to a consideration of the thyroid and parathyroids along similar lines to those with which the adrenals are treated in Chapters 1 and 2; namely, that many morbid conditions so seriously interfere with the functions of these glands, that they at least show a "lethal trend," and are often fatal; and this in addition to a discussion of such conditions as Cretinism, infantilism, myxoedema, etc., due to diseased conditions of those organs primarily. Especial emphasis is laid upon the results of insufficient action of the thyroid and parathyroids, tending to show the causative relationship existing between those groups of symptoms which are rather illy defined as neurasthenia, rheumatism, obesity, auto-intoxication, etc. The author contends also that many cases, mentally defective, are suffering from hypothyroidism.

In Chapter 11 the author presents a rather interesting theory of immunity. He thinks that toxins, bacterins and vaccines excite the thyroid-adrenal center, which he recognizes as the immunizing center; that this, in turn, increases the production of phagocytes and stimulates the adrenals, thyroid and parathyroids, resulting in an increase of "thyroxidase," and "adrenoxidase." The first he considers the opsonin and agglutinin; the last, the amboceptor; and these products, stored in the red cells, are discharged at the instance of the phagocytes, thus sensitizing and softening the bacteria to be "ingested by the phagocytes and deposited by their cytase (complement) and trypsin-like ferment, and this process continues as long as there are bacteria to produce toxins capable of exciting the adrenothroid center." Or, as the author summarizes: "The thyroxidase (opsonin, agglutinin) sensitizes and softens the pathogenic agent, while the adrenoxidase (amboceptor) oxidizes the phosphorus of the nucleo-protein granulations, liberating heat; the activity of the trypsin ferments (plasmatin and phagocytic complement) being correspondingly increased, the pathogenic agent is converted into benign and eliminable products."

tion.—A Manual of Pathology. By Guthrie McConnell, M. D., Professor of Pathology and Bacteriology, Temple University, Medical Dept., Philadelphia. Second Revised Edition. 12mo. of 531 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, \$2.50 net.

The purpose of this volume is not that it shall attempt to take the place of the more voluminous text books on pathology, but that it shall enable the student especially to rapidly acquire the salient points on the subject. To the chapter on Tumors has been added a number of changes, particularly concerning the classification. The chapter on the Thyroid Gland has been rewritten, the classification much modified and new material made use of.

Practical Treatment—Volume III.—A Handbook of Practical Treatment. In three volumes. By 82 eminent specialists. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M. D., Late Assistant Professor of Medicine, University of Pennsylvania. Volume III: Otavo of 1095 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Per volume: Cloth, \$6.00 net; Half morocco, \$7.50 net.

Eighty-one physicians have contributed to this volume. The contents of this book consist of monographs on the following subjects: Constitutional Diseases, Diseases of the Respiratory System, Diseases of the Digestive, Urinary and Nervous System, Muscles and Diseases of the Mind.

Clinical Diagnosis—Second Edition, Revised and Enlarged.—Clinical Diagnosis. A Manual of Laboratory Method. By James Campbell Todd, M. D., Professor of Pathology, University of Colorado. Second edition, revised and enlarged. 12mo. of 469 pages with 164 text-illustrations and 13 colored plates. Philadelphia and London: W. B. Saunders Company, 1912. Cloth \$2.25 net.

This volume presents clearly and concisely the various laboratory methods which are of use in clinical medicine. Each section has been carefully revised and much new material has been added to every chapter.

The chapter on animal parasites has been entirely rewritten and more than doubled in extent.

Among the many additions that has been added in this new volume may be mentioned, the anti-formin method for tubercle bacilli, detection and significance of albumen in the sputum, a simple technic for the diagnosis of typhoid fever by blood culture, the Wasserman reaction.

The Practical Medicine Series—Comprising Ten Volumes on the Year's Progress in Medicine

and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School, Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume X. Nervous and Mental Diseases, Edited by Hugh T. Patrick, M. D., Professor of Neurology in the Chicago Policlinic, Clinical Professor of Nervous Diseases in the Northwestern University Medical School, Peter Bassoe, M. D., Assistant Professor of Nervous and Mental Diseases, Rush Medical College. Price \$1.25. Price of the series of ten volumes \$10.00. The Year Book Publishers, 180 N. Dearborn Street, Chicago, Illinois.

In this volume the following subjects are discussed: Symptomatology, Neuroses, Diseases of the Brain and Meninges, Diseases of the Spinal Cord, Diseases of the Peripheral Nerves, and Mental Diseases.

Practical Medical Series, Volume IX.—Skin and Veneral Diseases, Miscellaneous Topics, Edited by W. L. Baum, M. D., and Harold N. Moyer, M. D. Price \$1.25. The Year Book Publishers, 180 N. Dearborn Street, Chicago, Illinois.

Constitutional Relations of the Dermatoses opens the first chapter. Special attention is given to syphilis and allied diseases. Under the title of Miscellaneous Topics are History of Medicine, Insurance, Medico-Legal Questions and Sociology.

Practical Electro-Therapeutics and X-Ray Therapy.—With chapters on Pathology, X-Ray and Eye Surgery, X-Ray in Dentistry and Medico-Legal Aspect of the X-Ray, by J. M. Martin, M. D., Professor of Electro-Therapeutics and X-Ray Methods in the Medical Department of Baylor University. In the Medical Department of Southwestern University, in the State Dental College, Dallas, Texas. Containing 219 illustrations. Price \$4.00. C. V. Mosby Company, Publishers, St. Louis, Missouri.

This book has been written for the student and general practitioner and is a valuable edition to the library of those who are interested in Electro-Therapeutics.

Technicalities have been avoided, the numerous photographs and skiagraphs are from the author's private collection and are introduced as practical examples of the efficiency of the methods described.

It is hoped that this volume will awaken a deeper interest among its readers in the use of electricity and X-ray by showing what may be done by a thorough study and careful application of the methods presented.

Principles and Practices of Physical Diagnosis—By John C. DaCosta, Jr., M. D., Assistant Professor of Clinical Medicine, Jefferson Medical College, Philadelphia. Second edition, revised.

Octavo of 557 pages, with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$3.50 net.

The second addition has been thoroughly revised as to text and illustration without departing from the original plan and scope of the book which deals with the principles of physical diagnosis and their practical application to the study of thoracic and abdominal diseases. New matter has been incorporated, chiefly in connection with the subjects of sphygmomanometry, nodal rhythm, pleurisy, and lobar atelectasis. A great many new illustrations have been added.

Diseases of the Skin and the Eruptive Fevers.

—By Jay Frank Sehamberg, M. D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Second edition, revised. Octavo of 573 pages, 235 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$30.0 net.

Dr. Sehamberg especially emphasizes diagnosis and treatment. The chapters on actinotherapy, Röntgenotherapy, and radium are particularly valuable, expressing, as they do, the very latest achievements in the use of these therapeutic agents. The cutaneous manifestations of all diseases are considered, not alone of the ordinary exanthematous fevers. The views expressed on all topics are conservative, safe to follow, and practical. The book is profusely illustrated.

Operative Obstetrics, including the Surgery of the Newborn.—By Edward P. Davis, M. D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Octavo volume of 483 pages, with 264 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net.

This volume is abundantly illustrated and a complete bibliography has been added. Operative Surgery, in Obstetrics has reached a point where more complete elucidation is needed, this the writer has ably done, the various technic and individual methods of delivery are concisely and clearly stated.

Nervous and Mental Diseases.—By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., Professor of Psychiatry, Columbia University. Seventh edition, revised. Octavo volume of 932 pages, with 338 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

This book has been written for medical students and general practitioners. The literature of neurology and psychiatry has been sifted by the authors, and such digest revised in the light of their own experience in practice and in teach-

ing. Each subject is presented clearly, directly and with brevity, despite the difficulty of condensing two great subjects within the limits of a single volume.

An unusual number of illustrations for each department has been added from the author's own material.

Currents of High Potential of High and Other Frequencies.—Second Edition.—By William Benham Snow, M. D., Author of "A Manual of Electro Static Modes of Application, Therapeutics, Radiography, and Radiotherapy," "Therapeutics of Radiant Light and Heat and Convective Heat," Editor of the Journal of Advanced Therapeutics, late Instructor in N. Y. Post-Graduate School and Hospital, etc., Scientific Author's Publishing Co., 329 W. 57th Street, New York City. Price \$1.00, net.

This work has been entirely rewritten, revised and enlarged. Forty cuts have been added, and the chapters on High Frequency Currents and Therapeutics have been revised and entirely rewritten. The work contains the results of the author's personal researches and investigations, and includes most that is valuable on the subject of High Potential Currents. The developments on the subject of hypertension and its treatment by the d'Arsonval current, as well as the employment of direct d'Arsonvalization in the treatment of infection, have been thoroughly considered in this edition.

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum.—Volume A.—Medical. By Andrew Balfour, M. D., B. Sc., F. R. C. P. Edinburgh, D. P. H. Cambridge, Director Fellow of Royal Institute of Public Health, the Society of Tropical Medicine and Hygiene, and the Incorporated Society of Medical Officers of Health, etc. Published for the Department of Education, Sudan Government, Khartoum. Depots for North America, Togo Publishing Co., 35 West 33rd St., New York City.

It is almost impossible to exaggerate the importance of the work which is being accomplished by the distinguished group of scientific men associated with the Wellcome Tropical Research Laboratories, under the leadership of Dr. Andrew Balfour.

The thorough examination of the conditions of tropical life, as they present themselves in men, animals, plants and insects, is the task to which this great institution is devoted.

The Fourth Report of the Laboratories, which is now being issued, contains the facts, observations and discoveries brought to light during the last few years. Unlike the commentaries and digests which are so familiar a feature of the scientific press, these volumes contain the actual record, at first hand, of new contributions to the

solution of problems of deep and world-wide import.

Their value is further enhanced by the superb manner in which the knowledge, so laboriously gained, has been presented and illustrated. The expansion of the work of the Laboratories and the amount of new material collected during the last few years have rendered it impossible to issue the Fourth Report in one volume, and the subject matter has, therefore, been divided into two parts. The first part, Volume A, of which a complimentary review copy is being sent herewith for your acceptance, deals with the medical aspects of the work of research. Volume B, which relates to general science is now in the press, and will be issued shortly. Volume A presents the results of the bacteriological examinations carried out at the Laboratories. Pathological and other specimens from a wide area, and illustrative of many forms of endemic disease, have been the subject of investigation. Important papers have also been contributed on the work of the Sleeping Sickness and Kala-azar Commissions. The fallacies and puzzles met with in the course of blood examination in the Tropics form the subject of an interesting and well-illustrated article. An extended research on fowl spirochaetosis has demonstrated the important role played by the "infected granule" in this disease. Other papers include records of work on trypanosomiasis, human spirochaetosis, kala-azar, forms of cutaneous leishmaniasis, yeldt sore, diphtheria, human botryomycosis, veterinary diseases, etc. The interesting notes contained in the previous reports on sanitation in the Sudan are continued.

The two volumes of the Report, (A) and (B) together, contain 738 pages of letterpress and illustrations, many of the latter being in natural colours.

The price fixed for the Reports is as moderate as is consistent with the great cost of production, and any profit made will be devoted by the Sudan Department of Education to a special fund for future publications of the Laboratories.

In order to place the reader completely in touch with the latest phases of the whole subject, a third volume has been added as a supplement. It is entitled "A Second Review of Recent Advances in Tropical Medicine, etc."—a title which is amply fulfilled in the contents.

The last Reports were issued in 1908, and the announcement that a further instalment of the work was to be expected has aroused the keenest interest among students of tropical medicine and a very large demand is anticipated.

A Handbook of Medical Diagnosis—In Four Parts—By J. C. Wilson, A. M., M. D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, Physician to Pennsylvania Hospital, Physician in Chief to the German Hospital, Philadelphia. 418 Text Illustrations and 14 Full Page Plates. Third Edition.

Thoroughly Revised. Price \$6.00. J. B. Lippincott Company, Publishers, Philadelphia and London.

This volume is arranged in four chief parts. First, Medical Diagnosis in General. Second, The Methods and their Immediate Results. Third, Symptoms and Signs. Fourth, The Clinical Applications.

Much has been rewritten and especially the articles on epidemic antro-poliomyelitis, beri-beri and pellagra.

Serum diseases and anaphylaxis in general have been considered, much of the section on diseases of the heart has been recast, and a section on the electro-cardiograph added. Many changes in diseases of the nervous system have been made. A number of new cuts have been added.

Syphilitic Lesions in the Bladder.—Asch has encountered three cases of true bladder syphilis and a large number of parasyphilitic bladder affections in the last twelve years, and he compares these experiences with the literature on the subject. The bladder is usually affected, if at all, during the third phase of syphilis. These syphilitic affections of the bladder seldom have a specific aspect and their true nature may be unsuspected. Gunmas often simulate papillomas and he suggests that it is wise to examine for syphilis in every case of papilloma of the bladder. Gunmatous growths cause manifestations like those from any neoplasm, except that they are liable to induce considerable hemorrhage; the hematuria is distinguished by its continuance from beginning to end of the urination, while with neer, even the syphilitic, the hemorrhage is more terminad. Treatment should be the general specific treatment without local measures. General treatment is liable to induce pronounced benefit in tabetic bladder disturbances. Asch cites forty-three recent publications on the subject of syphilis of the bladder.

Standard of Efficiency Required of Physicians.

—Tinkham says it would be a decided step in advance if there was an organization of state boards which required some standard of efficiency as a prerequisite to membership and which could have some influence in bringing about a more uniform standard of examination. It is difficult to see how the influence of state examination and licensing boards is to produce an elevating influence on medical education until they are composed of men who are as well qualified to examine medical graduates as the men who compose medical faculties are qualified to teach, and it is difficult to see how state boards can determine and maintain a satisfactory standard of efficiency for medical graduates unless these boards are composed of efficient men.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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EDITORIAL

THE LATE WILLIAM A. ATCHISON.

A search of the old records of the Kentucky State Medical Society shows that Dr. Atchison was elected to membership in the Society at Lexington, on April 6, 1869. At this same meeting, he was elected Senior Vice-President and on the last day after Frankfort had been selected as the next place of meeting, it is recorded that "Dr. Atchison moved a reconsideration, and in a most eloquent manner extended a cordial invitation from the Medical Society of Bowling Green to meet in that place. The motion to reconsider carried and Bowling Green was by a unanimous vote designated as the place for the next meeting." It appears that Vice-President Atchison presided during the rest of this meeting. It is of interest that at this meeting a Committee was appointed to investigate the advisability of giving medicine by hypodermic injections, and that a Committee on Vital Statistics was created of which Dr. Charles Munn, of Nicholasville, was chairman.

The fifteenth annual meeting of the Society was held in Bowling Green, beginning April 5, 1870. The late Dr. H. M. Skillman, one of the most beloved and distinguished physicians our State has ever produced, had been re-elected President the year before but was unable to be present on account of dangerous illness, and Dr. Atchison presided as Senior Vice-President. It is of passing interest that there were twenty-four members present at this meeting and seven new members were elected during the meeting. It is to be noted that at this meeting chloral was first reported as a useful medicine. Dr. W. A. Atchison, of Rich Pond, was unanimously elected President, and it is stated that upon assuming the chair of President for the en-

suing year Dr. Atchison thanked the Society for the honor conferred in a brief and happy manner.

The sixteenth annual meeting was held in Covington with President Atchison in the chair. There were thirty members in attendance at this meeting. Upon motion of Dr. Kearns, who is still one of the most distinguished practitioners in Covington, a Committee was appointed to invite the State Medical Society of Ohio, which was then in session in Cincinnati, to take part in the proceedings of the Kentucky State Medical Society. This Committee consisted of Drs. Kearns, L. B. Todd, of Lexington, and David W. Yandell. The two societies seemed to have held a joint banquet. The total income of the Association for this year as reported by the Treasurer, Dr. L. B. Todd, was \$278.85. Dr. Atchison does not seem to have been present at any other meeting of the Society.

Dr. A. B. Cooke, of Nashville, formerly of Bowling Green, contributes the following sketch of the life of the late Dr. William A. Atchison, who was the oldest living Ex-President of this Association:

"The subject of this sketch was born in Warren County, Kentucky, on August 17, 1831, and died at Nashville, Tennessee, on December 18, 1911, in the 81st year of his age. For a number of years he had been troubled with a mild grade of arterio-sclerosis complicating a valvular heart lesion, but only within the recent past was there any noticeable impairment of his general health. Some three months ago he began to suffer with attacks of pain in the left chest, accompanied by embarrassed breathing, which he attributed to indigestion, but which proved upon examination, to be of cardiac origin. He was at once frankly advised as to the true nature of the trouble, and accepted the verdict calmly, continuing with perfect equanimity in the even tenor of his way until the call came. His



WILLIAM A. ATCHISON, A.M., M.D.

PRESIDENT OF THE KENTUCKY STATE MEDICAL SOCIETY IN 1870; SENIOR
VICE-PRESIDENT IN 1869; PRESIDENT OF THE NASHVILLE TENNES.
SEE ACADEMY OF MEDICINE IN 1888-9; AND A MEMBER OF THE
TENNESSEE STATE MEDICAL ASSOCIATION SINCE 1875;
DIED IN NASHVILLE, TENN., DECEMBER 18, 1911

mind remained clear, his carriage erect and vigorous, and his interest in life alert and earnest until the very end, death overtaking him while seated in his accustomed chair reading his morning mail.

"Doctor Atchison graduated in medicine from the University of Louisville about 1852, and at once began to practice in his home county, removing to Bowling Green, Kentucky, a few years later. He was a successful physician from the start, and rapidly built up a large and desirable clientele. On January 1, 1875, removed to Nashville, and formed a partnership with his uncle, Doctor T. A. Atchison. For the following twenty years the firm of Doctors T. A. and W. A. Atchison stood at the forefront of the medical life of this city, both in popularity and in high character of professional work.

"Doctor Atchison loved his profession, and retained an active interest in it to the last. He was a faithful reader of medical journals, and kept his library up to date in the department of general medicine, to which his practice was limited. At the bedside he was one of the most resourceful men the writer ever knew. His therapeutic armamentarium seemed inexhaustible. He never abandoned hope nor acknowledged defeat so long as a patient continued to breathe.

"Doctor Atchison also loved his professional brethren, and seldom lost an opportunity to attend medical gatherings. He was President of the Kentucky State Medical Association while still a young man, (in his thirty-ninth year), and was the third President of the Nashville Academy of Medicine, serving for the year 1888-9. During the whole of his life in the state he was a member of the Tennessee State Medical Association.

"As citizen, as friend, and as Christian gentleman, as well as in the capacity of physician, Doctor Atchison measured up to the highest standard. A man of unswerving integrity, firm in his convictions on all subjects, as strong men are and should be, conscientious, charitable, God-fearing—what more need be said of him? For thirty-six years of his active and useful life a familiar figure in the community which he early came to regard as home, loved most by those who knew him best, and honored by all, he will be missed from his daily walk of service to his fellowmen, and deeply mourned by many to whom he was counselor, benefactor, friend, and physician all in one.

"Doctor Atchison's wife died in February, and his only daughter in July, 1911, thus leaving him entirely alone. Necessarily he was lonely in spite of the loving interest of numerous friends. The reunion with his family to which he looked forward with longing and in

perfect faith came within the short space of ten months. Who shall say that it is not better so?"

IN DEPRECIATION OF THE NEGLECT IN GENERAL BY PHYSICIANS OF THE MEDICINAL TREATMENT OF DISEASE.

I.

THE TREATMENT OF MALARIAL DISEASES

The injudicious—as well as others—may smile at didactic aphorisms about disorders which are admittedly remediable specifically, just as common itch (scabies) has long been recognized to be amenable to sulphur applied locally and syphilis has been regarded as curable by mercurial salts. Nevertheless, I regard authoritative oraculism as very pertinent particularly regarding this subject for these reasons: (1) That the average family physician sees too little of malarial diseases nowadays in the Middle States, to enable him to continue thoroughly familiar with it; wherefore he is extremely apt to consider a case of mild aestivo-autumnal fever with abdominal symptoms to be appendicitis or extra-uterine pregnancy. I was highly amused about eighteen months ago at a bright young lawyer's account of his experiences in such an infection, in the course of which he narrowly escaped an operation for appendicitis in "The Athens of the South"—Nashville, Tennessee; (2) That I have for some years observed that almost without a single exception tertian fever patients are allowed to relapse and to re-relapse in conditions that should have insured their avoidance; and (3) That irregular manifestations of malarial troubles are so often overlooked by very reputable physicians.

It is so trite an observation as to be really undignified for one to have to say that with thorough use of the microscope for blood examinations and with the repeated employment of the Widal test, the diazo reaction, etc., there should be no more discussion about typho-malarial fever, nor any uncertainty, at least for long at a time, as to what ails a given patient in the States referred to. H. F. Harris has settled all that for years to come.

Knowing definitely the nature of his task, the practitioner inexperienced in the treatment of malarial diseases with only current standard text-books to guide him, will find himself at the outside unprepared to afford his patients either comfort in their paroxysms or protection from their recurrence.

In the paroxysms, he may be misled into treating the high temperature (which is quite the commonest and assuredly the deadliest medical high crime and misdemeanor!) with one or more of the antipyretics which are

both as numerous and as deadly as the plagues of the Egyptians *apud* Moses. Further, his misconception of his duty as a curer rather than as a palliator of suffering, may lead him to administer some of the newer and (alleged)—especially by their vendors) little harmful analgesics, to relieve the severe pains in head, limbs or loins. I have many times seen delicate persons brought to the very threshold of death's door by these insidious products from Germany. I incurred a simple tertian infection at Palatka, Florida, in September, 1909, after having visited unscathed the majority of the dangerous regions of the earth where the deadliest malarial diseases prevail. Being at that time much out of health from neurasthenia and other disorders, I was greatly upset by the paroxysms, so I feared to attempt to treat myself. In fact, my occasional delirium would alone have prevented it. But I found that I had actually to order my attendants not to administer any anodynes of a synthetic nature to me, although they were more than once ordered by my good friends, the local practitioners.

Comfort of relatively high degree may be afforded in the cold or shaking stage of an ague fit, as chills were long called in Great Britain, by a large dose (30-45 minims) of spirit of chloroform, which may be repeated within fifteen minutes, if required. Capsicum in thirty-grain doses in pills will often relieve most of the symptoms of this stage; and I have not found it to give much, if any, local trouble in the stomach, although it should not be risked, if there will have been vomiting or any other contraindication. (It will be referred to later as an anti-malarial of considerable power.) These failing, a hypodermic injection of a full dose of morphine or else a full dose of opium, preferably in the form *parvorie*, should be administered. If one of the foregoing remedies will have been used with effect, the hot stage will very likely be passed in sleep and will thus require but little attention for the patient.

It is repeated for the sake of emphasis that no treatment other than local refrigerants should be used in it. The temperature is sometimes, particularly in delicate women, so high as to appear deadly; but deaths from hyperpyrexia in malaria are very rare; and I, for one, do not consider them a whit less terrible than those from poisoning by Darmstadt and Berlin products.

Henceforth opinions differ and plans of treatment diverge.

I consider that the nature of the *causa causans* of these diseases must necessarily guide.

In young and robust patients, it will do no real harm, just as it will cause them little real inconvenience, to saturate them with

quinine. Older persons with circulatory troubles, either incipient or declared, will probably survive such treatment; but it will be to curse their physician bitterly for the misery that he will have caused them through tinnitus, etc.

I prefer to try merely to throttle the next paroxysm; and I think that this may practically always be done with not more—nor with much less—than forty grains of a quinine salt, and I greatly prefer quinine muriate or hydrochlorate. However, the life-cycle of the *plasmodium malariae*, in its human host, makes this procedure a matter of some exactness in using the most elective preparation. In infections that have progressed measurably, so that the paroxysms come about noon, it has been sufficient in my experience to get the last of the doses making up the forty grains administered about six hours before the time for the paroxysm to be averted. The other dose (or doses) should not have preceded this final dose by a greater interval. Hence, if there be any uncertainty about their retention or about the absorption of these doses, hypodermic administration should be resorted to. Muriate of quinine and urea is now so common as a local anaesthetic that its non-employment by deep intra-muscular injections well distributed should not be countenanced professionally; but, of course, the dose should be reduced to suit the method. The danger of abscess after using quinine salts *sub cut* has been due, I feel sure, to: (a) Using insoluble or little soluble salts in large volumes of water; (b) Injecting such solutions under the skin in relatively non-vascular areas; (c) Imperfectly appreciated principles of asepsis. Proof of the foregoing explanations are afforded, I believe, by the work of the U. S. Army Convalescent Hospital on Corregidor Island, Manila Bay, where thousands of hypodermic (or, rather, intra-muscular) injections of quinine have been administered without an abscess.

But it will not suffice to have forestalled a single paroxysm in an intermittent fever patient; it will be wise to prevent at least two more exactly as the first. I then, noting as carefully as may be done from the history of the first paroxysm, prepare for treating the patient on the *twenty-first day* from that date exactly as if it were "chill day"—as it will, in many cases, actually prove to be.

W. F. A.

(To be continued.)

Eczema of the palms and soles demands the most energetic treatment. A prime necessity is to get rid of the thick epidermis which may be accomplished with *sapo viridis*.

RECTAL ALIMENTATION.

Rectal alimentation is discussed in the therapeutic department of the *Journal A. M. A.*, (January 13, 1912, p. 114). It is pointed out that when a patient is unable to take an adequate amount of nourishment by the stomach, or, having taken it, is unable to retain or digest it, the physician is obliged to try to assist nutrition by way of the rectum. The work of David L. Edsall and others shows that very favorable results must not be expected but that nevertheless some nourishment is absorbed in this way.

At the present time there seems to be good reason to believe that ordinary food, undigested, is not very freely absorbed by the rectal and colon mucous membrane; consequently most practitioners who employ this form of alimentation use a predigested food. Milk and eggs are readily available for this form of nutrition. A formula attributed to H. C. Wood is as follows:

R.	Gm. or c.c.
Pancreatin	30 or gr. v.
Sodii bicarbonatis	1.30 or gr. xx.
Aquae	30 or fl. zi

To this may be added the whites of one or two eggs, and the whole kept at a temperature of 110 F. for from one to two hours, the longer time permitting more complete digestion.

Besides water, peptonized food, and salt, alcohol is often an ingredient of a nutrient enema, and is frequently indicated.

Observations would seem to show that the most important ingredients of a nutrient enema are water, sodium chlorid, dextrose, alcohol and peptonized milk and egg. Of course these are not all to be combined at one time, but a judicious combination must be selected according to the individual indications in each case.

Before the first nutrient enema is given the rectum should be washed out by an enema of simple warm water or normal saline solution. Usually one pint of water will be sufficient for this purpose. This cleansing enema should be administered one hour before the nutrient enema. Care should be used not to give it too frequently, lest the mucous membrane of the rectum become irritated so that it will not retain the nutrient enema. The nutrient enema should not be administered either cold or hot, because cold or hot fluids are likely to stimulate the muscular coat of the rectum and lead to their expulsion. The best temperature is between 95 to 105 F. The injection should be administered with a fountain syringe, and should be allowed to enter the intestinal canal slowly. A long tube should be used, so that the fluid may be deposited about the sigmoid flexure or as near to that part of the large intestine as

possible. The fluid absorbed at this point passes into the portal vein and goes to the liver where it undergoes assimilation. Furthermore, the higher up in the large intestine the enema is placed, the greater chance is there for reverse peristalsis, and consequently better digestion and absorption.

The amount of each enema must vary according to the tolerance of the lower intestine of each individual patient. Some patients can retain a pint of warm fluid, but for most patients 6 or 8 ounces is a safer amount to use.

The patient should, of course, be lying in bed while the enema is being administered, and should retain the recumbent position for at least an hour after the operation is completed.

CONSULT YOUR PHARMACIST.

The matter which appears on another page under the heading of "Prescription Nonsense" makes *apropos* the recommendation which recently was made in a paper read before a pharmaceutical society, in which it was stated that every physician should have a pharmacist whom he can go to for advice. This paper by W. A. Puckner, Secretary of the Council on Pharmacy and Chemistry states: "Physicians need pharmaceutical advisers—those whom they may consult concerning desirable methods of preparing medicines for administration, their incompatibilities and similar questions, upon which it is difficult for physicians to keep posted." The speaker noted that "many physicians have been inclined to forsake their corner druggist, because he has been tried and too often found wanting, and have pinned their faith to pharmaceutical manufacturers and promoters of specialties and their detail men. Dependence on the specialty proprietors has, however, been disastrous—so disastrous that well informed physicians will have no more of the physician's dependence on proprietary detail men."

After pointing out how disastrous has been the physician's dependence on proprietary medicines the paper states that every reason exists why physicians should go back to the writing of individual prescriptions to be compounded by a pharmacist. The paper then continues: "Happily, there are signs that pharmacists are awake to the tendency of the times and are making efforts to devote more attention to the professional side of their business; and, as a result, there is a tendency on the part of physicians to go back to the old times, and once more get in touch with their druggist. The pharmacist, however, must realize that physicians need *real pharmacists* as advisers and not druggists, who, while prominent at 'Get-together dinners,'

with talk of 'U. S. P. and N. F. Propaganda,' neglect their prescription counters to prepare grewsome 'patent-medicine' displays and advertising dodges in their front windows."

PREScription NONSENSE.

Referring to a paper on the treatment of gastric ulcer the therapeutic department of the *Journal A. M. A.* (Jan. 6, 1912, p. 34) says: "The general acceptance of the prescriptions of men of renown which were quoted by the author is, however, to be deplored. These prescriptions are neither advisable nor valuable. The same deplorable prescriptions were copied semi-editorially by another journal, the quotation not giving the valuable parts of the original paper. The fact that a man is of great ability and of great reputation is no proof of his ability to write sensible prescriptions or to treat a disease or condition scientifically. Able practitioners are many times divided into two classes: those who are drug nihilists (and yet some of the worst mixtures are often used by them), and those who believe in the pharmacologic and chemical action of drugs and yet ridicule the art of good prescription-writing as beneath their dignity. Such men often write the most uncouth prescriptions and the most absurd combinations in order to get the desired action of one drug."

A number of prescriptions written by physicians of wide reputation are discussed. Regarding one designed to reduce acidity in gastric ulcers and containing infusion of rhubarb, sodium bicarbonate and peppermint oil it is said:

1. An infusion of rhubarb root is too disagreeable to administer to anyone. In the next place, it could have no action whatsoever on gastric ulcer or gastric acidity. Its reaction is that of a bitter laxative.

2. Theoretically, oil of peppermint should not be administered in gastric ulcer, as the stimulation of a carminative can do nothing but cause the outpouring of more gastric juice, even if menthol directly applied to the ulcer might, in some instances, help it to heal.

3. The only object of this prescription, then, is the bicarbonate of soda, which would act chemically to temporarily diminish the gastric acidity, and might therefore stop pain.

4. It is utterly absurd to order such a prescription administered twice daily without specifying the time in relation to meals, to pain, or to any action of the bowels which might occur from the rhubarb.

Regarding a prescription ascribed to Ewald and containing calcined magnesia, sodium bicarbonate, potassium bicarbonate, powdered

rhubarb and milk sugar, to be given every half hour, it is said:

1. There is no difference of any importance in the action of sodium carbonate and potassium carbonate; therefore there is no object in using both.

2. Sodium carbonate is more or less irritant; sodium bicarbonate is hardly irritant at all. There is therefore no reason for using sodium carbonate in place of sodium bicarbonate.

3. Powdered rhubarb root is intensely disagreeable to take, and cannot help in reducing the acidity of gastric juice; in fact, any bitter will increase the outpouring of gastric juice. If a laxative is desired, it certainly should not be administered in this manner.

4. Any sugar, even sugar of milk, is better not given to a patient in whom one is attempting to reduce hyperacidity.

5. The only satisfactory action from this prescription must come from the heavy magnesia, but even its gentle alkaline action would be overcome by the combination in which it finds itself.

6. Half a teaspoonful of a powder containing rhubarb, administered every hour without a definite limit, certainly seems bad therapy.

Regarding a prescription of Elsner designed to reduce hyperacidity and to relieve pyloric spasm, containing belladonna extract, sodium bicarbonate and magnesium phosphate, it is suggested that the latter is worthless, that the first should be given by itself if the action of belladonna is wanted, and that the bicarbonate of sodium is the only valuable constituent.

Similarly prescriptions credited to Trouseau and to Cohnheim are criticised and an appeal is made that physicians should think when they write their prescriptions.

WORTHLESS COUGH SYRUPS.

From the therapeutic department of the *Journal* (Dec. 30, 1911, p. 2139) the following discussion of an old shot-gun prescription which is in our Pharmacopoeia, namely, *Mistura Glycyrrhizae Composita*: Brown Mixture, is taken:

Let us hope that this preparation will not be official in the ninth revision of the United States Pharmacopoeia. Let this preparation be forgotten and go into innocuous desuetude. Why? Because it is an absurd mixture, and it is a shame to put it into a perfectly good stomach. Even if a patient happens to have a cough, why should his stomach be upset with any nasty, sweetish cough mixture?

What does brown mixture contain? *Mistura glycyrrhizae composita*, U. S. P., contains:

Pure extract of glycyrrhiza.....	3 gm.
Syrup (sugar)	5 cc.
Acacia, granulated	3 gm.
Camphorated tincture of opium ..	12 cc.
Powdered opium	0.4 gm.
Benzoic acid	0.4 gm.
Camphor	0.4 gm.
Oil of anise	0.4 c.c.
Glycerin	4 c.c.
Diluted alcohol	.95 c.c.
Wine of antimony	6 c.c.
Spirit of nitrous ether	3 c.c.
Water, sufficient quantity to make	100 c.c.

It seems a shame to continue to give bad-tasting, sugary preparations in the attempt to combine prescriptions for coughs. There is practically no activity whatsoever, except to upset the stomach, in any of the cough syrups. If ammonium chlorid is selected as the expectorant desired, and there is none better, let it be administered in a sour preparation, or given in simple water, without or with a flavor, as peppermint or wintergreen. A disagreeable after-taste may be quickly eliminated by a taste of orange or lemon, as the patient desires; or the ammonium chlorid watery solution may be administered in an effervescent water.

CHANCE FOR A KENTUCKY DOCTOR.

The American Red Cross desires again to invite attention to the exhibition in connection with the Ninth International Red Cross Conference, which will be held in Washington, D. C., from May 7 to 17, 1912.

The exhibition will be divided into two sections, which will be styled Marie Feodorovna and General. The former is a prize competition, with prizes aggregating 18,000 rubles, or approximately \$9,000, divided into nine prizes, one of 6,000 rubles, approximately \$3,000; two of 3,000 rubles each, and six of 1,000 rubles each.

The subjects of this competition are as follows:

1. A scheme for the removal of wounded from the battle-field with the minimum number of stretcher bearers.
2. Portable (surgeons') washstands, for use in the field.
3. The best method of packing dressings for use at first aid and dressing stations.
4. Wheeled stretchers.
5. Transport of stretchers on mule back.
6. Easily folding portable stretchers.
7. Transport of the wounded between warships and hospital ships, and the coast.
8. The best method of heating railway cars by a system independent of steam from the locomotive.
9. The best model of portable Roentgen

apparatus, permitting utilization of X-rays on the battlefield and at first aid stations.

The maximum prize will be awarded to the best exhibit, irrespective of the subject, and so on.

The General Exhibit is again divided into two parts; the first will be an exhibition by the various Red Cross Associations of the world. The second will be devoted to exhibits by individuals or business houses of any articles having to do with the amelioration of the sufferings of sick and wounded in war, which are not covered by the Marie Feodorovna Prize Competition for the year. While the American Red Cross will be glad to have any articles pertaining to medical and surgical practice in the field, it is especially anxious to secure a full exhibit relating to preventive measures in campaign. Such articles will be classified as follows:

1. Apparatus for furnishing good water in the field.
2. Field apparatus for the disposal of wastes.
3. Shelter such as portable huts, tents and the like, for hospital purposes.
4. Transport apparatus (to prevent the suffering of sick and wounded) exclusive of such apparatus as specified for the Marie Feodorovna Prize Competition.

As with the Marie Feodorovna Prize Competition, for this country only articles having the approval of the Central Committee of the American Red Cross will be accepted.

Diplomas will be awarded for exhibits in this section of the exhibition as approved and recommended by the jury.

Further information may be obtained from the Chairman, Exhibition Committee, American Red Cross, Washington, D. C.

It is perhaps to apparatus having to do with prevention of disease in armies that the energies of Americans have been specially directed since the Spanish-American War. Therefore, the last mentioned section of the Exhibition should make an appeal to them.

NATURAL VERSUS SYNTHETIC SODIUM SALICYLATE.

Through its committee on therapeutic research, the Council on Pharmacy and Chemistry has undertaken to settle once for all the question whether or not sodium salicylate made from oil of birch or oil of wintergreen is better than sodium salicylate which is made from salicylic acid derived synthetically from phenol. While on the face of it, pure sodium salicylate, i. e., that complying with the standards laid down in the Pharmacopoeia should have the same properties, no matter how made, certain proprietary houses lay great stress on the superiority of the kind

which they sell and which they claim to be made from natural oils. Inasmuch as many physicians have accepted these claims of superiority and in their prescriptions specify the "natural product" which costs more than ten times as much as the best "synthetic," it is most opportune that the Council should have taken the matter up. Under the direction of Torald Sollman, a member of the Council and professor of pharmacology at Western Reserve University Medical School, it is proposed to study the question chemically, pharmacologically and clinically. While the chemical work is still under way in the association laboratory and the clinical tests are being made in a large number of hospitals, the pharmacological investigation by Prof. Waddell, University of Virginia, has been completed. (*Archives Internal Medicine*, December 15, 1911, p. 784.)

The report of Prof. Waddell is preceded by a general introduction by Dr. Sollmann, in which is shown the insufficiency of the evidence on which the champions of the "natural" sodium salicylate have based their claims. Sollman brings out clearly on what slim, shadowy evidence an interested party will base the most positive statements and how, not being familiar with the nature of the evidence, physicians have accepted, in the past, mere whims or fancies as proven facts to the detriment of therapeutics.

The result of Dr. Waddell may be summed up in a few words: All the brands of sodium salicylate, whether "natural" or "synthetic" had identical effects on cats, rats and rabbits. It is hard to imagine that human beings will be differently affected.

SCIENTIFIC EDITORIALS.

AUTOINTOXICATION.

There is no term employed in medicine that is so frequently used and misused as auto-intoxication. It is in the words of the Psalmist "an ever present help in time of trouble." But like malaria it has been used to describe many conditions that have nothing to do with intoxication at all. One bad result has grown out of this indefiniteness of statement and that is that the use of such terms leads to looseness of thinking and is far removed from that scientific spirit of exact knowledge that we should all strive for. Again there has been great advance made in the last few years in our knowledge of some of the illy understood morbid processes and we can now assign many of these to quite definite and well understood processes. In view of the complexity and magnitude of the subject one may be excused if only certain phases of this broad field will be alluded to in this brief

consideration of the subject. We shall limit ourselves therefore to the consideration of the intoxications which are of gastro-intestinal origin. With the admirable monograph of Prof. A. E. Taylor upon this subject in *Modern Medicine* one must in the main necessarily agree. There are, however, certain hypotheses of still more recent date which show the advance in this short time.

There are five possible sources of intoxication from the intestinal canal. These are, according to Taylor: Digestive fluids and secretions; normal products of digestion; abnormal products of digestion; substance formed normally from food by bacteria within the alimentary canal; and abnormal products of bacterial disintegration.

The resorption and intoxication from the digestive juices may be ignored for the ferments are colloids which are not readily absorbed. The salivary ferments are digested by the pepsin which in turn is destroyed by the trypsin and it with the other intestinal ferments is hydrolysed and destroyed by the bacteria in the intestines.

The products of normal digestion when introduced into the blood in an abnormal way are toxic. We can hardly affirm that in the normal gut they would ever produce an intoxication. Albumoses and peptones when injected hypodermically may cause fever associated with other phenomena. One might question whether in abnormal states of the intestinal mucosa there may not be a more direct absorption of these products without having undergone those changes in the proteins which are effected by the mucous cells in the mucosa.

The products of an abnormal digestion might well be considered as potential causes of intoxication. Taylor thinks, however, that there is no evidence to support the above hypothesis. Let us consider for a few minutes the most recent accepted theory of the digestion of proteids. It seems to be agreed at present that the albumin molecule is made up of a number of simpler molecular radicals most of which belong to the amido-acids. These radicals are by no means so simple that they can be readily formed in the chemical laboratory. When the protein reaches the stomach it is fractioned into these simpler radicals. When these reach the intestine the trypsin and other ferments fractionate them still further and into simpler molecules. These are now picked up by the mucous cells of the intestinal villus and are recombined into the serum albumin and globulin which are characteristic and peculiar to the animal. There are possibilities which will be alluded to here but will be discussed more fully later. Some of these fractions are known to be non-toxic. Others are as yet undetermined. It

is agreed that a normal mucous membrane can handle these products without difficulty but it is not so settled that an abnormal mucosa will be so able to distoxicate or prevent the absorption of these poisonous substances. To broaden the scope of our discussion let us take up the two remaining sections of our subject—the products which are formed by bacteria out of normal food and out of abnormal food. Here is the real crux.

Bacteria produce out of the ordinary food certain well known substances which are handled by the system without any injury as a rule. Besides this the intestinal mucosa seems to have a distinct factor of safety as it may be called, in that it and the system in general can take care of more than a minimum of toxic material. It is claimed that the decomposition products formed in the intestine by the bacteria from normal foods are not toxic. It is also claimed that the putrefaction of food rarely causes any auto-intoxication because most of the products formed are taken care of by the body. It is said to take ten days to form ptomaines and therefore it is impossible to have ptomaine poisoning unless the protein had undergone putrefactive changes before it was taken as a food. This does not take into account the clinical fact that food remains in the intestinal canal some times longer than ten days. We have all seen cases of the passage of food remnants which had been in the bowel for much longer than ten days, and therefore, it is not inconceivable that ptomaine poisoning might arise from some of these retention products.

The contention of Taylor that intoxication from the bowel is a fallacy except when the food has spoiled before being ingested is open to these several criticisms. It is the experience of every one who practices upon children that they are particularly liable to sudden attacks of a very violent nature following a change of food. After the occurrence of diarrhoea from any cause the baby will be put upon a protein free or low diet. After some days of this low diet the attempt is often made to return to milk in very weak dilution. At once there is an alarming outbreak of severe symptoms and sometimes the life of the child is lost. In such cases we can not understand how such severe toxemia could have arisen with so little to explain it. There is no change in the flora of the bowel. The milk itself is pure, fresh and free from any bacterial infection and yet the case flares up like a cyclone with death as the result. There are several probabilities which may be suggested. The intestinal mucosa denuded of its natural protecting layer of cells may absorb into the capillaries toxic material which would normally be kept out by the normal cellular activities. The protective layer

being gone the toxins go direct to the liver whose distoxiating powers have been abrogated by the original disease. If one will examine and outline carefully the liver in every case of intestinal trouble he will be surprised how often he will find that organ enlarged and evidencing the fact that it has had much work thrown upon it in the way of taking care of the toxins which are being absorbed from the intestinal lumen. Post-mortem we shall find that the hepatic cells have been worsted in the strife and have undergone a fatty degeneration. The size of the liver helps to measure the amount of toxemia which is being carried to it. A very little additional work put upon it may at the critical moment prove the proverbial straw. Unfortunately Taylor has shown that the urine which has been relied upon so much to give us intelligence in these cases by the indian and other tests of the formation of the tryptophane end products, is unreliable. He says: "There is no clinical parallelism between symptoms and the conjugated sulphates in the urine, either in degree or in the onset and disappearance. What is all along actually assumed is that other substances, poisons, are produced by the putrefaction; and as the degree of putrefaction may be often approximately measured by the aromatic substances, the degree of the hypothetical poisoning is also so measured." In other words he does not believe such tests to be of any value in determining the toxemia.

A second possibility must be threshed out. The bacteria undoubtedly destroy the protein molecule with the formation of a number of comparatively simple chemical end-products which are not toxic or the cause of intoxication. But the protein molecule is a very complex molecule and it is not inconceivable that the cleavage of that molecule may result one time in the simple non-toxic entities and yet by another cleavage create highly complex compounds of an alkaloidal toxicity. Our knowledge of these chemical changes and reactions is as yet too chaotic to enable us to state too dogmatically our opinions.

With the advent of the serum therapy and the frequent use of horse serum for the relief not only of diphtheria but for many other diseases and even for their prevention we are hearing more and more of serum disease and anaphylaxis. When one has an opportunity to see a well defined case of anaphylaxis his respect for the potential dangers of serum will be immeasurably increased and he will not be anxious to resort to such potent agents when they are not necessary. Caille in the last issue of the *Pediatrics* sounds a warning note which has been expressed for some time in the foreign literature against the indis-

criminate use of immunizing doses of even such an accepted agent as diphtheria antitoxin. The pendulum has begun to swing back somewhat. As Dr. Allen has so patently remarked: "An agent which is capable of great good is also capable of harm." Now the explanation of anaphylaxis as at present accepted is that the cleavage of the protein molecule proceeding in an abnormal direction so to speak has produced a poisonous product which may even be fatal. Pisek has recently suggested that some of the phenomena of difficult digestion in bottle babies are in the nature of anaphylactic phenomena.

One may propound the following theories as acceptable if not accepted. The possibilities of intoxication from the intestinal tract are not fully known and understood. Bacterial products which are not as yet determined may be produced in the gut and cause symptoms by their absorption. Abnormal cleavage of the protein may be caused by pathogenic and by so-called normal bacteria whose potential capacities are by no means fully determined. Toxic cleavage may arise not only from the bacteria but from the mal action of the digestive ferments.

PHILIP F. BARBOUR.

THE VALUE OF BLOOD ANALYSIS IN OTOTOLOGY.

Favored by the vast material of the Vienna Clinics and the concentration of the work in the Allemine Krankenhaus, Dr. E. Urbantschitsch has been able to study the condition of the blood in quite a number of ear cases, the result of which he has recently published in the *Monatschrift für Ohrenheilkunde*.

He calls attention to the error of most hematological examinations in otology of studying only the relative proportion of the red cells and the leucocytes and expresses the belief that the real worth of the blood analysis lies in the study of the relative proportion of the different leucocytes amongst themselves.

Urbantschitsch examined the blood in 75 cases. He took the specimens from the lobe of the ear of the unaffected side, and used the blood counting apparatus of Zeiss. The dry specimens were stained according to the method of Leishman. The specimens were all taken in the morning to avoid the leucocytosis of digestion. He also avoided as much as possible the withdrawal of blood during high fever and during coincident or intercurrent diseases.

A brief extract of the exhaustive report of Urbantschitsch will suffice to show the class of cases in which hematanalysis is of value.

In ten cases of *acute purulent otitis media*

and *acute mastoiditis* in which the blood was examined moderate leucocytosis (9,000 to 11,600 L) was found in nine cases and a high degree of leucocytosis in one case (15,000 L.) The high degree in this case was accounted for in the existence of high temperature of the patient at the time the blood was taken. The relative proportion of neutrophile and eosinophile leucocytes remained undisturbed in all of the cases but two and in these the disturbed relations was due to other causes (abscess of the soft parts.)

In ten cases of *chronic purulent otitis without cholesteatoma* but two showed, in addition to leucocytosis, an increase in neutrophile (polynuclear) and decrease in eosinophile cells indicative of intracranial complications. However in the one the disturbed relations were found to be due to an intercurrent abscess in the ear canal and the other to the close proximity of the lateral sinus to the abscess. Several of the cases with normal blood cell relations showed alarming symptoms as nausea, dizziness, headache, etc., which subsequently subsided, thereby indicating the absence of intracranial complication.

In three cases of *chronic purulent otitis with cholesteatoma* one case showed moderate leucocytosis with increase in neutrophile and decrease in eosinophile cells significant of intracranial complication which, however, did not develop, showing that disturbed blood cell relations is not an infallible diagnostic sign.

In thirteen cases of *middle ear inflammation without perforation of the drum* those resulting in non-purulent bone destruction showed normal blood relations while all of the purulent cases showed leucocytosis with relative increase in neutrophile and decrease in eosinophile cells. Two of these cases were of special interest, one because the mastoid was opened and revealed pus entirely on the evidence of the blood count after local conditions and subjective symptoms of mastoid disease had about disappeared; the other, just the reverse of his case, where with persistence of subjective symptoms of mastoid disease normal blood relations decided against an operation and the case finally returned to normal.

In six cases of *extradural and perisinous* subsequent to the radical mastoid operation, the blood count showed normal relations.

In six cases of *extradural and perisinous abscess* the cases of developed perisinous abscess were associated with marked leucocytosis and relative increase of neutrophile and decrease in eosinophile cells and in the cases with pus away from the sinus between the dura and bone the blood analysis showed only a slight leucocytosis with neutrophile cells in normal proportions but eosinophile cells completely absent.

In nineteen cases of *sinus thrombosis*, *pyemia* and *sepsis* positive leucocytosis, though not always of a high degree, was present in every case as was an increase in neutrophile and decrease in eosinophile cells.

In five cases of *meningitis* the four purulent cases showed leucocytosis of high degree (20,000 to 40,000 L) and marked increase in neutrophile and absence of eosinophile cells. The single case of serous meningitis showed normal relations of blood cells.

In three cases of *brain abscess* a high degree of leucocytosis was present. In the two fatal cases an entire absence of eosinophile cells was noted while the case which recovered showed only a reduction of these cells.

Based upon the observation of these 75 cases Urbantschitsch comes to the following conclusions: That a diagnosis in ear diseases can not be made by the blood count alone but that hematanalysis is of considerable value in conjunction with clinical symptoms;

That the presence of leucocytosis in itself is not a positive sign of bone suppuration but when associated with disturbed relations of the neutrophile (polynuclear leucocyte) and eosinophile cells it is of great diagnostic and prognostic importance; that the uncomplicated cases of acute and chronic middle ear suppurations are associated with only slight increase or normal proportion of leucocytes with normal relations of the neutrophile and eosinophile cells but that coincident abscesses of the soft parts can bring about blood changes simulating those found in intracranial complications;.

That the blood count is of undoubted diagnostic value in those cases of pus in the mastoid in the absence of otorrhoea. A slight leucocytosis and the same disturbed relations between the neutrophile and eosinophile cells as in intracranial complications is always present and in the absence of other conditions to bring on this blood change is sufficient evidence to warrant a mastoid operation;

That the hematanalysis is of little or no diagnostic value in diseases of the labyrinth;

That leucocytosis with marked increase in neutrophile and marked diminution or entire disappearance of eosinophile cells is uniformly found when intracranial complications exist. Although the changes are as a rule most pronounced in purulent meningitis, the blood analysis merely indicates the presence of intracranial pus but can not be relied upon to differentiate between meningitis, sinus thrombosis and brain abscess;

That marked increase of neutrophile and absence of eosinophile cells with leucocytosis of any degree can always be looked upon as a bad prognostic sign.

ADOLPH O. PFINGST.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form facts about the composition, quality and value of medicines. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A. Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and the Chemical Laboratory.*

TIZ

"Tiz" is a widely advertised toilet article in regard to which The Journal A. M. A., has had many inquiries. It is produced by Walter Luther Dodge & Co., Chicago, and is called a "new, scientific, medical, toilet tablet." Among other claims are: "It is different from anything ever before sold." "Small shoes can be worn by using Tiz." "Guaranteed to cure corns, callosities, bunions, frost bites, chilblains, ingrowing toe nails, tired, aching, swollen, bad-smelling feet." "Draws out all poisonous exudations which bring on soreness of the feet and is the only remedy that does; cleans out every pore, and glorifies the feet—your feet." In response to the inquiries, The Journal A. M. A., December 2, published the results of the examination of the product in the chemical laboratory of the American Medical Association. From this examination it is believed that a tablet having properties like "Tiz" would have the following composition:

Potassium aluminum sulphate (alum)	60 per cent.
Tannic acid	10 per cent.
Salicylic acid	5 per cent.
Talcum (talc)	5 per cent.
Starch	20 per cent.

For years physicians have prescribed these astringent drugs thus advertised by quacks as a cure-all, according to the time-worn methods of quackery. There is nothing new in the treatment which is only what any physician might devise. Like most nostrums, "Tiz" is exploited with disregard for truth and is simply an attempt to exploit the public.

LIQUID SULPHUR—SULPHUME.

As an instance of the revival of an ancient fake, the venerable Vleminkx' solution, The Journal A. M. A., December 2, publishes an expose of Sulphume, concerning which a number of inquiries had been received. A package of this product recently purchased bears the following legend: "Sulphume for the skin and blood. The

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

contents of this bottle makes 10 strong sulphur baths. Dose—Internally: Four to six drops of Sulphume in one-half tumbler of water 3 times daily, one-half hour after meals. Price \$1.00. Sulphume Company, Boston, U. S. A." Accompanying the bottle is a booklet entitled "Sulphur and Its Benefits to Health," in which Sulphume is lauded for its value in treating all sorts of skin diseases, catarrh, corns, bunions, diabetes, diphtheria, female weakness, fevers, hemorrhoids, rheumatism, prostatitis, rickets, etc. Details of the chemical analysis are given. The preparation is essentially an aqueous solution of calcium polysulphoid and thiosulphate, such as is obtained when a mixture of lime and sulphur is boiled in water. A solution of this kind is described in the National Formulary under the title of Liquid Calcis Sulphurate, 32 ounces of which can be made at a cost of about 8 cents. The Journal says that, while some physicians still attribute some value to sulphur as an alterative and general antiseptic and as a remedy in skin disorders, it has come into rather general disuse by the regular profession at the present time. The public, however, is still taken in by bad smelling drugs.

RADIUM TEAS.

A reader of The Journal, (Dec. 23, 1911, p. 2098) asks whether the newspaper accounts of radium teas, at which patients are exposed to radium emanation for a number of hours while they play cards or read and take tea, which is said to be a fad in Paris, is "pure guff" or an "actual scientific process." The Journal states that this form of radium treatment is taken seriously abroad and we who live in the land of the gullible may soon expect to have radium tea rooms, radium whist clubs, and what not.

OFFICIAL ANNOUNCEMENTS

STATE BOARD INVESTIGATION.

The Committee on Kentucky Statutes is investigating the State Board of Health at the instance of Mr. Herrington of Madison county. The Board and the State Medical Association will welcome the investigation as it will make the whole people better aware of the character and extent of the work being done by both. The following is the statement of Dr. J. N. McCormack:

Mr. Chairman and Gentlemen of the Committee:

In order to economize in time, with your permission, I present to you the minutes of the State Board of Health, showing its operations in detail from its creation over a generation ago to the last meeting held in this hotel on the 10th of the present month: the Treasurer's books and numbered vouchers for

each item, accounting for every dollar appropriated and expended by the Board since I became its secretary, October 1, 1883, and containing for each year a report of the committee appointed to audit the books and vouchers, certifying to their correctness at the bottom of each annual statement. These minutes and financial transactions have been published for each biennial period and widely distributed.

When the enlarged appropriation became effective January 1, 1911, after discussion with the Board, and conference with the present and former State Examiners, it was decided that the method of keeping the financial records could be improved and extended, and I present to you a full detailed, numbered statement of each expenditure under the appropriation of \$30,000, with a voucher-check, receipt and itemized account corresponding to each entry, and indicating the department for which the expense was incurred, duplicates of these voucher-checks having been filed with the Auditor of Public Accounts, as required by law. Attached to this financial statement will be found the report of the Potter-Matlock Trust Company, employed to audit the books and vouchers, and that of the Auditing Committee of the Board appointed for the same purpose. All of these itemized statements and other matters will be embraced in the forthcoming volume of transactions and become an open book to every citizen.

In this connection it may be of interest for you to know that the Board was created upon the recommendation of Governor McCreary in 1878 to meet the emergency of an epidemic of yellow fever then raging in the south, and that, before the appropriation became available, with funds raised upon the personal credit of its members, who served then, as now, without compensation, it was in the field fighting to protect the health and lives of our people. For the first twenty-two years the total appropriation for the work was \$2,500, after which, until last year, it was \$5,000. During all these years the work of the Board has ranked well up with those of other states having five and ten times the funds. This was only possible because the members of this Board and 695 members of county and city boards of health served without compensation except for their executive officer, and because I furnished the Board an office in my residence, with heat, light and janitor free of cost, as our hospital is now doing for one of the laboratories, and for years my wife and son, and in times of emergency, every servant in the household, assisted in the clerical and stenographic work and in getting out the enormous mail, without any or at only a nominal cost. At different times when my son was away at college, Walker D. Hines, now at the head of the Sante Fe system, and

McKenzie Moss, now Circuit Judge in my district, took his place in the morning and evening when not in school for ten dollars a month. For all these years my son and I, long before he was a doctor and since, were on the border where pestilence threatened from the south, and in the counties in every section during smallpox and other epidemics, our overalls were covered with scabs and pus while we helped to carry the sick to the improvised hospitals and to bury the dead, a service which most of you would not render for all the revenues of Kentucky. More unpleasant than all of these things, and because no one else would do it, I haunted these legislative halls year after year, often classed as a lobbyist by those who did not know any better, but most nobly supported by my profession of every school of practice, as I am now, begging that authority be given my Board and profession to protect the people from pestilence and impure food, drugs and quackery, and so successfully that the laws on most of these subjects, written by me, are used as models in other states.

At the outset, the State Board of Health was a purely political body, pull having more weight than fitness, and, while excellent men personally, many of them had little training, and often could not afford the time for its duties. One Governor went so far as to exact a pledge of each appointee that he would vote to put the health and lives of the people of Kentucky in the hands of one of his political friends, and only failed because this most worthy physician declined to accept the position when he knew what would be required of him. The county boards were then appointed by the fiscal courts and were little more than farces. All this became such a recognized evil that representatives of all schools of practice agreed upon and secured the passage of the present law, which put the selection of members upon a scientific basis, with the result that the men now composing the Board will bear favorable comparison with the Court of Appeals or any other body of men in the State. On account of his wisdom in public affairs, and the interest he has always taken in health matters, the present Governor could be safely trusted to make nominations on the Board without restrictions, but this was intended and was agreed upon as a permanent provision, because sad experience has taught us that the average governor was no better qualified to select members of the Board than the average doctor would be to select judges of the highest courts, and that it would be just as reasonable to put such authority in his hands. The same principle applied to the appointment of county boards of health by the fiscal courts, and this will be realized when the people come to know that

health and life and the officials who protect them are more important than property interests and the courts which look after them. The county boards are now selected upon merit alone. They serve without compensation, and yet the spirit of the profession is such that there has never been any trouble in getting the best men to serve. I hand you the lists of these boards for thirty years that you may study them and ascertain if they are men who could be dominated by any man, and that such an insinuation is a reflection only upon those who inspired it. To return to this vicious system, discarded because it was vicious, and put us back in the pool of politics would be a step backward which would and ought to be condemned by all right thinking people who have no personal friend or end to serve, and I have no fear that it will ever be done.

When the \$30,000 appropriation was secured it was at once decided to try to do twice or thrice that amount of work with it. With this end in view competitive bids were secured on all laboratory and other equipment and supplies, much of the scientific apparatus coming from abroad duty free, often with a saving of 50 per cent. or more. The heads of departments and employees were put upon minimum salaries and stimulated to do the best that was in them by promise of better compensation as soon as all the cost of equipment was paid. All of them have made good, and the bacteriological department has saved more to the people on diphtheria and rabie serums alone than its entire cost for the year, and without adverse legislation the good to come to the homes of our people from these activities is beyond computation. We have the best equipped laboratories in Kentucky for their purposes and scope, and I ask you to visit and inspect them, as the health committees of both houses have been asked to do.

A few men have tried to dominate Kentuckians, but no one has ever succeeded. I hold no office in the State Medical Association, and have not for twenty-eight years when I was its President, and my opinions have weight with my profession only because of what I have done for it. This hand has written every health and medical law on our statute books, our health reports, now used as text books in our normal and hundreds of district and high schools, and almost every health circular and leaflet. I led the organization movement in every county, pleading for and securing harmony where there had been discord, and bringing together all schools of practice. Completing the organization of my own State, nine years ago, after consultation with the Board, and upon its advice that the Board's prestige and my usefulness would be greatly increased thereby, I accepted the position of

Chairman of the Committee on Organization and health lecturer of the American Medical Association for the United States, and, in that capacity, have inspected and spoken upon health conditions in ever principal city and county in this country. In doing this my engagements were such that I only missed two meetings of the Board and could always be here should an epidemic occur. Upon the completion of the laboratories, the possibilities for good to our own people so impressed me that I resigned this position, with its salary of \$6,000, over the protest of the National Association, to devote the remainder of my active life to the improvement of health conditions in my native State, upon the same salary paid my stenographer, and which I have never asked to be increased in all these thirty years. Is it surprising that the profession are my friends, and that they consider an attack upon me as being made upon themselves? But it is charged that the profession is not for me. In order to put this to the test I now propose that if any state association, homeopathic, eclectic or osteopathic, or any county society, including Mr. Herrington's, and there is no better one, will ask it, I will join in the request for the referendum vote provided on all matters by our Constitution, and will cheerfully resign if 90 per cent. of all the doctors do not support my policies and work.

In conclusion, nearly thirty years ago, by a unanimous vote, I was made the executive officer of this Board, and this has been done at regular intervals since until two weeks ago, upon motion of the homeopathic member, seconded by his osteopathic colleague, I was again elected unanimously for a term of four years. In all these years my life has been an open book both to the profession and people, and I have done my duty to every interest as God gave me the capacity to see it. This is the first, and, with the fair and impartial hearing I know you will give, I expect to make it the last, time any man has ever questioned my motives, my capacity or my integrity. My respect for this Committee, my profession and for myself has kept me from trying this issue in the public press, as my traducers have attempted to do. Most of you are strangers to me, and, since the day this question assumed a personal phase, I have spoken to no one of you on the subject, greatly interested as I am in other bills before you, and have asked no assistance from any county board of health or physician, or written or inspired a letter to one of them. I do not need the pittance of a salary, ask no man's favor and would despise myself if I accepted any man's sympathy. I only court the full, fair investigation which I know you will give me, and then—justice.

ORIGINAL ARTICLES

THE PHYSICIAN'S DUTY AS AN EDUCATOR IN PREVENTIVE MEDICINE.*

By J. W. ELLIS, Masonville.

When I made my debut into the medical profession, way back in the last century, I found physicians everywhere, studying symptoms of disease and their treatment, the reason for which was that the exact cause of but few diseases was known and the practice of medicine was but little more than empiricism. Then when the physician had visited his patient and prescribed for his symptoms, he thought he had done his whole duty, and perhaps he had under the then existing state of medical knowledge, for preventive medicine was unknown.

It was reserved for the last quarter of the nineteenth century to produce the immortal Robert Koch, who in the autumn of 1882, announced to the medical profession his discovery of the tubercle bacillus, as the exact cause of tuberculosis.

He demonstrated the fact that this particular microorganism was always present in tuberculosis, and that it was the exact cause of the terrible disease. With this startling and supremely important discovery, a new era dawned upon the medical world and medicine had for the first time become almost an exact science.

Immediately bacteriology sprang into existence, and physicians everywhere were busy trying to discover the exact cause of every disease with which humanity is affected, with the result that the cause of nearly every disease is known and preventative medicine is born.

The relation between the physician and the laity was at once changed. Theretofore the laity had been consulting the physician in regard to his symptoms and their management, but to-day he is asking his physician the far more important question, how he can escape disease.

In consequence of the marvelous advances in medical science, and the accumulation of medical knowledge, physicians are to-day able to point out the danger signals, and recognizing the fact that they are the custodians of the health and lives of the people, are cheerfully and courageously betaking themselves to the task of preventive medicine.

The public heretofore has received its teaching in regard to disease and its management from patent medicine fakirs, who fill the pub-

*Read before the Kentucky State Medical Association, Paducah.

lie press, with misleading statements, about the virtues of their vile, habit-producing nostrums. It is no wonder the physician finds bottles and boxes of this stuff in nearly every house he enters, when he reflects, that the public press of the land, the great educators of the people, is the medium through which these vampires reach the public.

It is the duty of the physician to remonstrate with the public press, both secular and religious, and to point out to them the blighting effects of this false teaching upon the lives and happiness of mankind, to which they are unwittingly lending their great influence and alone making it possible for them to victimize the people.

When the medical profession succeeded in getting the Pure Food and Drugs law enacted, much, they thought, had been accomplished toward protecting the public from the nefarious practices of food dopers and nostrum venders.

In a test case, the supreme court has decided that the measure falls far short of what its originators intended, and the physicians should suggest such amendments as would make the bill effective.

Already the great work of physicians in preventative medicine is beginning to be felt and appreciated by the laity. Just the other day, President Taft sent a message to Congress, urging the strengthening of the Pure Food and Drugs Law, and banishing fraudulent nostrums, holding forth false promises of cure in a multitude of diseases.

The message is a sequel of the recent decision of the Supreme Court above referred to, which ruled that a manufacturer could legally label a nostrum as a cure for disease, although he knew it to be worthless in the treatment of that disease. Physicians should insist that Congress pass further legislation providing that no misbranding or misleading statements, whatsoever, may be placed on the labels.

Our own Mr. Sherley, of Louisville, has already introduced a bill bearing on the subject, and early action in the matter is earnestly desired. If the people are being taught daily by the bureau of agriculture the great importance of the conservation of our natural resources, how much more important is it that they should be taught the importance of the conservation of human life, and nowhere else could this be done more effectually than by a bureau of health with a medical man in the President's Cabinet, a measure physicians are now urging and should continue to urge until it becomes a law. This department, if established, would at once become an educational center and the public, in search of health would not be left to be

misled and misguided and deceived by patent medicine advertisers.

This altruism on the part of physicians is regarded by some as an effort to establish a doctor's trust, and on the very threshold of their undertaking are met with organized resistance. A few pious, though misguided people have allied themselves with quacks, irregulars and the great patent medicine interests and organized a so-called "League for Medical Freedom," an organization, the sole object of which is to perpetuate the power of these patent medicine concerns and leave unmolested these charlatans, whose sole end and aim is to rob the afflicted, and who are to-day a menace to the happiness and well being of all mankind. These are the people who are making the unholy fight on Dr. Wiley and demanding his removal from the position of Government chemist, which he now holds. Dr. Wiley's great sin is his ability to detect fraud, and his honesty to announce it to the world. Physicians everywhere should stand by him for he is doing a work that will benefit universal humanity.

It is a well known fact that many diseases have been spread by infected hands. Simon Flexner has gone so far as to declare that perhaps "the chief compelling phenomenon" is that of microbe carriers. They have been found to disseminate typhoid fever, dysentery, cholera, influenza, spinal meningitis, and many others diseases.

Dairy workers, cooks, and bakers, with unwashed and infected hands are great sources of danger to the public and should be instructed to that effect and that they should no longer remain in the class of the great unwashed. It is the duty of physicians in their fight for preventative medicine to insist on the abolition of all drinking cups at public places, on trains, in hotels and wherever people congregate, and the substitution of separate paper drinking cups, strict enforcement of the spitting law, absolute enforcement of the law requiring all physicians to report all transmissible diseases, and the thorough disinfection of all premises occupied by such subjects. Typhoid fever should be a reportable disease, and the people taught to boil the drinking water, and all the utensils used by the patient kept from other members of the family. The milk supply of a family afflicted by the disease should be examined by the health bureau, all dairies and milk farms should be inspected and the cows carefully examined for tuberculosis.

As all reform must come from physicians along health lines, I think they should by public addresses and short newspaper articles instruct the laity that when one is physically injured, one should not wrap the wounded part in old dirty rags, but hasten to the

nearest physician and have an antiseptic dressing applied, thereby eliminating the danger of infection, instructions how to prevent other surgical conditions should be given—the absolute necessity of keeping the bowels open to prevent the development of hemorrhoids, to overcome the tendency toward appendicitis, the formation of gall-stones, colitis, etc.

With these duties and many other similar well performed, the physicians' duties to society and the public generally are hardly begun. The importance of these duties pale into insignificance when compared with solving the great problem of saving society from degeneracy and premature decay. To-day our prisons and charitable institutions are overflowing and why? Plainly because there has been no attention paid to marriage laws, and the prevention of the multiplication of the idiot, the imbecile, and the common criminal. The problem of the proper management of this, now very numerous class of people demands our serious attention and prompt action, if we are to save society and the state from a steady lowering of moral standards and consequent degradation and national disaster. The burning question at once arises, what can and should be done in the premises by the medical profession.

Evidently the state cannot take these unfortunate people and care for them. We have got to lose sight of the individual idiot, degenerate, and common criminal, and adopt measures that will prevent the production of new generations of these unfortunates. J. Ewing Mass, of Jefferson Medical College, suggests sterilization as the proper thing, and I fully concur with him and regard that by this means, and this only, can this class of undesirable citizens be properly cared for, and saved from themselves.

Doubtless physicians in the discharge of their duty along this line would be met with the argument, that these people have personal rights, that should be respected, but I deny that any one has the right to produce a class of people that would not only become wards of the state, but whose idiocy, imbecility and criminality would have a deadening effect upon all society.

It has been my observation that these degenerates are the most prolific people on earth and when mated produce the biggest families to be found, and as "nothing from nothing comes," this numerous progeny goes to swell the ranks of that rapidly increasing class of citizens that are already a menace to the future happiness and prosperity of our country.

With a law on the statute book of the state permitting a sexualization of the criminal, the idiot and the degenerate, and a strict mar-

riage law that would allow no marriage license to issue to any but sound and sane people, soon the atmosphere would clear and no longer would our courts be busy granting divorces, which can be had for the asking, thus destroying all that is sacred in the marriage rite and pure and holy in the home.

I have briefly suggested what I conceive to be the greatest triumph the medical profession has made since McDowell revealed to the world that the operation of ovariotomy, in the hands of skilled physicians and surgeons, could be made a perfect success, and this scientific performance be accomplished in the face of an angry mob. But to-day a monument stands over his pulseless dust to mark the triumph of his glorious achievement.

Since then, year by year, our profession has advanced. Year by year it has demonstrated that it was susceptible of being made an exact science, and Dr. Koch's discovery is probably the widest stride the profession has made along scientific lines in all its history.

His discovery not merely revolutionized medical science, but placed it upon an "Appian Way," inviting those who practice medicine to yet greater and higher triumphs in the future. While we may not hope to corral the human race in every civilized land into "happy valleys" like that once inhabited by "Rasselas," it is not the vision of a mere dreamer to hope that physicians in this and every other civilized country can by an intelligent and progressive prosecution of the science of medicine direct peoples of all lands to a safer and more reliable road; to a better and more certain path to health, physical life and good citizenship, and the science of preventative medicine, in my opinion, unerringly points the way. Whether our profession will prove equal to this humane and greatest of scientific achievements, remains for the future to disclose.

Another underlying thought, which should not be overlooked, in this connection, is this: while medical science does not have to deal directly with political or industrial problems, the fact remains that in this many-sided government in which we live, the medical profession can, and it ought to prove the greatest power not merely for the preservation of national health, but for the promotion of good government.

In these modern times, when commercial greed, with gigantic monopolies in the forefront, throng the highways of commerce and trade, and where fabulous volumes of capital have been congested into a few hands, the patriotic citizen, who loves his country, ought to pause and reflect that if we are to preserve our free institutions; if we are to perpetuate that liberty and independence, bequeathed to us by our revolutionary ancestors, we

must see to it that the citizenship of our country represents, not merely "sound minds in sound bodies," but an intelligence and patriotism which will steer us off those disastrous breakers, on which the cherished hopes of ancient free commonwealths in the past have been wrecked for no free government can long exist if the ranks of its citizenship are crowded with degenerates or perverts.

If we are to successfully deal with those gigantic corporations which appear to have so completely taken possession of the commercial and physical enterprises of our great country, we can only hope that such a result can be consummated by those who determine all issues with their ballots at the polls.

No country can be great or free where its citizenship crouches under the shadows of degeneracy, ignorance and crime.

A lofty citizenship, a patriotic citizenship, and a citizenship sure to guarantee the best results in a free republic must be an intelligent citizenship.

The medical profession holds in the hollow of its hands the possibilities of becoming the chief leader in developing such a citizenship.

I do not doubt that in the coming years our profession will go forward, that it will not merely warn the rich and the poor alike against those insidious waves of disease which constantly lash against the pathway of all human flesh, but that it will set its signal corps upon the mountain ranges of a higher and better life, and thus, not only render invaluable services to those who seek its aid to be protected against disease, but that it will materially aid in the preservation of that liberty bequeathed to us by the fathers.

But these triumphs of our profession which I so confidently predict will not be made by the beat of drum, the blare of trumpets, the crash of musketry, nor rattling swords, but silently, patiently, energetically, intelligently, and scientifically, so that at last the fact will be an accomplished one that the medical profession is not merely an exact science, but that its blessings to mankind and to government alike will be entitled to go ringing, sounding down the ages to the remotest generations of mankind.

DISCUSSION.

H. P. Sights, Hopkinsville: I can hardly refrain from saying something on this subject, and especially after listening to the able paper portraying the evil results, including the conditions in our State, as the doctor has done in his paper.

I would like to emphasize one point in the paper, and that is the moral side of this propagation of degenerates, idiots and criminals. I want to say, my observation, and it is the observation of every medical man in our State, has been that nearly all of the real chronic diseases we have

emanate from a condition of degeneracy. There is nothing that provokes criminal conditions more than an unhealthy condition of parentage. I believe that a perfectly physical man can be moral and will be moral, and I believe that nearly every immoral element in a man's nature is due to some former disease, to some hereditary condition. I cannot, from my knowledge of the human system, believe that a good healthy man mentally and physically, has a tendency to immorality. If that is true, and if we can, as the doctor has suggested, bring about a condition that will make perfect manhood and perfect womanhood, we will do more to prevent criminals than any laws or prisons that can be established in our country.

Another condition that he refers to is the saving of expense. There is no question but if we go on this matter in the right way and in the right spirit, as it is our duty to do, we can accomplish something. Nobody can do it as well as we can. Nobody but the medical profession of the State can take these matters up and have legislation that will correct the condition, because the people sit back and wait for the medical profession to make advances towards the perfecting of the human system. If we do that, and it is our duty, we will be saving more financially than any other element in our State could do.

I am enthusiastic on the subject of asexualization. I believe that the practice of this kind of surgery ought to be undertaken with a view to perfecting human beings, and there is no other way of doing it. As I said in my paper regarding the chronic insane, there should be no progeny at all from them, and while it looks a little hard to carry it that far, there ought to be some means of preventing an increase of these people under those conditions. I am sure, that his reference to a rapid increase of idiocy is true. I believe people with a low form of mentality produce more rapidly than any other class of human beings, and if there is anything that can be done to correct this condition, I think it is a commendable thing to do.

W. L. Heizer, Bowling Green: I feel sure from my knowledge of the attitude of the physicians of the State that no paper that has been read at this meeting of the association will be more widely read than the one that has been contributed by Dr. Ellis, because I know this subject is dear to the heart of the profession of Kentucky. We have need for State cooperation in public health work, and we welcome this paper, and I am sure we shall profit by its recommendation.

To my mind the reason we have so many evils existing is because of the fault of our system of education. We have boys running away from the farms, the most productive field for existence we have to-day who are taking up street car jobs and forty dollars a month clerical positions. It is the fault of our system of education that they

are led away from the things they ought to stick more closely to. Women are reared in a butterfly sort of way, with no responsibility of domestic life. Our educators realize that fact. Diseases are prevalent. Typhoid fever is spread far and near; tuberculosis is spread indiscriminately because it is the fault of the system of education and the people of the State have begun to realize this and to correct it, in a measure, by the establishment of two normal schools in the State, eastern and western. In these schools domestic science is taught. The girls are taught how to make dresses, how to cook, and how to conduct homes for the people of the State. The boys are taught elementary agriculture, how to test the seeds, how to reap the product of their knowledge in one year. All these things will help to prevent diseases by educating the people. The greatest fight lies with the normal schools of the State, lies with the ministers of the State, and with everyone who is in a position to educate the people. To the individual physician possibly it lies more closely than to any other class of men in the State. They must act while the mind is in a receptive condition. Therefore, I think with proper co-operation of the forces in one generation we can so educate the people as to reduce the death rate to eighteen per cent., in tuberculosis one-half, and we can eliminate one-half of our typhoid fever and the other diseases known to be germ diseases. As soon as the people realize the material basis on which the prevention of disease rests, just so soon will they fight against those conditions which bring us so much mental, and physical suffering and distress. There is no question about this in my mind. It seems to me, the ignorance and superstition in medicine is a realization of the fact that they recognize no tangible basis for the spread of disease. They look upon it as a visitation of divine Providence or of the devil, and just as soon as they realize the physical basis of disease lies in the germs of disease, they will fight against the spread of diseases. We have the National Association for the Study and Prevention of Tuberculosis, we have Anti-Typhoid, Fever campaigns, we have tuberculosis preached in the pulpit, and we are gradually educating the people to prevent these diseases in that way. Then, it seems to me, if we could go before the teachers of the State and show them why it is necessary to teach these things, show them it is necessary to link elementary agriculture with domestic science and with preventive medicine, and make school life a part of home life, we will have struck the keynote of these things.

I would urge the physicians of Kentucky to take every opportunity that presents itself to go before the teachers of the State and urge the adoption of the individual drinking cup; tell them if we do that it can be made a basis for a public health talk on Friday afternoon. We

should show them how to make individual drinking cups, and teach them how diphtheria, typhoid fever, scarlet fever, and whooping cough can be communicated in this way. The sanitary drinking cup can be made the basis for health lectures to be given the children once or twice weekly, as the case may be. Tell them that the State Board of Health is issuing a bulletin monthly which will contain articles that deal with public health questions, and give them lectures in such form that they can give it to their children. Urge ministers of your section, who have at least a little time to give to these things, to devote a day to one of the preventable diseases, beginning with tuberculosis and running down through the list. It would seem that in just a short time, in a few years, as soon as the rising generation reached manhood, we will have eliminated these diseases and the patent medicine evil and the others we have with it. We have not been as successful as we might have been in this work because people have not been educated as to the dangers of these things.

In the prevention of typhoid fever there is one practical point I desire to mention, and that is to use fly traps. In one town in this State they use such traps and that town is freer from flies than any other town in this State. Practical things like that, if brought to the attention of the people, will do much good. Flies are a potent means of carrying typhoid fever.

J. S. Lackey, Lakeland: I would like to make a few remarks on this subject. I want to make reference to a few points in the excellent paper of Dr. Ellis.

Many years ago, as you know, it was supposed that lunatics were cast out by the devil and were treated as though they were not human beings. Later on it was supposed that lunacy had reference to the moon; that the mind was supposed to be affected by the moon. Later on we began to recognize lunacy as being due to some pathological condition, and I now feel assured that almost all of our prevalent cases of lunacy are caused by some pathological condition. I have had quite a number of cases in my section that were caused by malaria. They were really crazy people, but I have treated a great many of them for malaria and have relieved many of them. I am speaking of a local condition that prevails on the Cumberland River. We scarcely have a case of lunacy that does not depend upon malarial poisoning. I do not believe in the hereditary phase of it. I thought it got into the family and would run through it and from year to year there would be some member of the family attacked by lunacy. I have a very dear sister who is a lunatic, but I am certain she was attacked at the start with a very malignant form of malaria. She is now in such a favorable condition, thanks to Dr. Sights, that she may soon be removed from the asylum. He tells me that she has greatly improved.

I take this opportunity to say that there has been a great improvement in the asylums and the conditions therein at Hopkinsville. I have visited the asylum at Hopkinsville and know there has been a great improvement in the management, and while I am not going to take issue with the gentlemen who have preceded me, I do say that great things can be done for the lunatics by proper management in hospitals, and I think they ought to be considered hospitals. We know very well that what has been said about idiocy is all too true, and we know that the habits of the men, that immoral practices contaminate the offspring, but, at the same time, a great many of our lunatics—I will say almost all of them—are pathological subjects and can be treated and relieved. There are certain families that are easily affected by tuberculosis, but I have lost my faith in the old idea of the heredity of tuberculosis almost entirely. I do not believe we can have a case of tuberculosis without the tuberculosis germ. It is necessary to have the germ in order to contract the disease, but there are some individuals who are more susceptible to the disease than are others.

J. E. Kincheloe, Breckinridge: I did not hear all of Dr. Ellis' paper, but it seems that the discussion has been directed very largely to the question of training the people so as to prevent disease.

There are two very important points that have not been touched upon, namely, food and dress. We as a nation of people, study science; we study enlightenment; we study physiology and hygiene, and we practice heathenism. We make fun of the flatheaded Indians; we talk about them in derision; that they carry things on top of their heads in order to make them flat. But what do we do? We have the poor fashion that binds the waist of the woman and forces down all of the abdominal organs, interfering with the chest and the whole system, thus making a weaker woman, a weaker man, and this is the source of a great deal of trouble. Why do our gynecologists have so much to do today with women? It is because of our cruel fashion. That is the source of the trouble, and it is up to the doctor to educate the people along this line.

Another point is with reference to eating. As I have said, we study science and enlightenment, but we practice heathenism. We eat too much. We would not take a fine colt and raise him and have him eat all the time. We would be afraid to do it. But what does the mother do with the child? She stuffs the child from the time it is six weeks old. Not infrequently you will hear a mother say, if my child does not eat bacon and beans, it will starve to death. Children are stuffed from the time they are six weeks old. We have to be very careful with babies because we do not raise them right. We do not feed them on breast milk as frequently as we should. The American people are a set of gluttons. We fill

our stomach, we over-eat, and what is the consequence? We have auto-intoxication. We fill the system with too much fat, so that the germs of consumption and of pneumonia gather upon us. If we poison the source the stream is bound to be poisoned. While it is a good thing to educate the people, still we practice heathenism, and we do not put into practice what we preach.

POST-OPERATIVE TREATMENT FOLLOWING PROSTATECTOMY.*

By LEWIS WINE BREMERMAN, Chicago.

Much has been written upon the relative merits of the various operative procedures for the removal of the prostate. Many statistics have been compiled to prove which is the better—the suprapubic or the perineal route. It is surprising, upon looking over the literature on prostatic work, how little has been written regarding the after treatment of prostatectomy, which to my mind is vastly more important than the operative technique. It matters little which operation is performed, if the patient recovers and is relieved of the annoying urinary symptoms, his recovery, in my opinion, depends upon the care and attention given him after the operation.

The post-operative treatment may be divided for convenience into three stages:

First, the period immediately following the operation.

Second, convalescence.

Third, the period covering, at least, six months.

During the first period, that immediately following the operation, the most important elements to be guarded against are shock, hemorrhage, anuria and sepsis.

In considering shock and its prevention I will be compelled to dwell for a moment upon the preparation of the patient preliminary to the operation. I will consider the question of anesthesia which, in these old gentlemen upon whom prostatectomy is performed, is of paramount importance. In clean cases, that is, when there has been no existing cystitis either of long or short duration and other things being equal, the operation may be performed at once. If the bladder has been infected more than a week or two preliminary treatment, for the purpose of rendering the field of operation as aseptic as possible. It is well also to institute constitutional treatment for the purpose of increasing the resistance of the patient.

As little preliminary work as possible should be done upon the patient in the operating room, and everything made ready for the operation before the anesthetic is given.

*Read before the Kentucky State Medical Association, Paducah.

thus shortening the time of the anesthesia, thus reducing the possibility of shock. It is my custom to have the bladder irrigated and filled and have the skin surface cleansed, just prior to the beginning of the anesthetic, the bladder being filled with formalin in solution of 1-4,000, and the skin surface painted with tincture of iodine.

It has been my practice in the majority of cases upon whom I have operated to use nitrous oxide gas and oxygen as an anesthetic. This is safe, rapid, and reduces to a minimum the chances of shock and anuria, and also, as may occur in either anesthesia, prevents to a great extent the dangers of pneumonia. I feel that one of the exciting causes of shock, particularly in the aged, is the persistent nausea, vomiting and straining which follows ether or chloroform anesthesia, this is entirely eradicated by the use of gas and oxygen. The patient fully recovers before leaving the operating room and is free from the annoying untoward conditions which are so greatly feared when other anesthetics are employed. I am compelled, however, to call attention to one class of patients where gas and oxygen anesthesia is contraindicated. If the patient has a myo-carditis then ether is the safest to employ. Gas and oxygen anesthetic is not an easy one to administer and for the best results it must be left in the hands of the expert. It is impossible for the interne or one not familiar with this form of anesthetic to know the proper mixtures, and to readily recognize untoward conditions.

My anesthetist has given many thousands of gas and oxygen anesthetics, and I must admit I employ it in cases where ordinarily this anesthetic would be contraindicated. Even when ether or chloroform is used I feel that in these cases in old men it is the safest plan to employ an anesthetist who has had much experience, for the patient should be kept under the influence of the anesthetic by the use of the smallest possible quantity.

Immediately following the operation and continuing for twenty-four hours hot salines per rectum, by the drop, are employed. This is done in every case, influencing a decided action upon the post-operative shock and anuria. Strychnine is administered in conjunction with the saline for the first twenty-four hours if it is indicated.

After the prostate has been removed, a 32 F. sound, or one as large as the calibre of the urethra will allow, is passed into the bladder, a meatotomy having been performed if necessary, to allow the passage of the instrument. The region around the internal urinary meatus is carefully examined, if there are any fragments of tissue these are removed. The bladder then is irrigated with hot formalin solution 1-4,000, which will, as a rule, stop the

bleeding, only occasionally is it necessary to pack the bladder to control the hemorrhage.

A drainage tube about 27 or 28 F. in size is inserted, this with thick walls to prevent collapsing, the bladder closed snugly around the tube, the structures are brought together with as few sutures as possible, reducing chances of infection. The tube is brought out of the upper angle of the skin incision.

The bladder must be drained as the process of drainage is the most important phase in the after-treatment of the case, as upon perfect drainage depends almost entirely the success of the operation, for by perfect drainage we minimize the danger of shock, anuria, sepsis, and hemorrhage. Drainage in these cases has been the bugbear of operators since prostatectomy has been classed among the scientific, justifiable operations. All varieties of drainage apparatuses have been devised. Most of these have been discarded as useless. Some operators use nothing but a tube which drains by gravity, others recommend the use of a tube of large caliber, through which if the drainage is not perfect, blood clots, etc., may be removed by the nurse in charge with a long pair of forceps, increasing by this method, as one can readily see, the chances of infection.

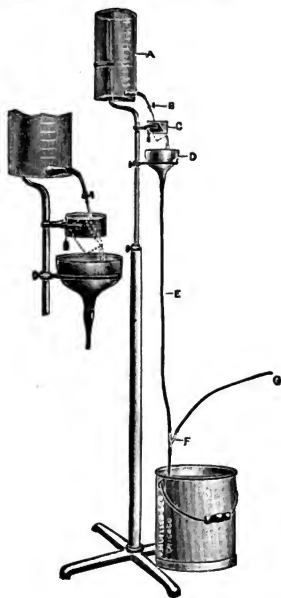
The author has devised a drainage apparatus which carries out all of its function automatically and with precision, producing absolutely perfect drainage. The apparatus is shown in the cut on page 111.

After the patient is placed in bed the tubing is connected with the drainage tube from the bladder. The Y-shaped tube F must be below the level of the patient lying in bed; the reservoir A filled with water, the stop-cock B turned so that the water will drop slowly into the cup C, which, on being filled, tilts and empties itself into the funnel D. The water running down the long tube E into the Y-shaped tube F forms behind it a suction which causes a siphonage of the fluid in the bladder. This siphonage may be regulated to occur at any given interval by arranging the flow of water from the stop-cock B which flows into the cup.

I am sure that those who are doing much bladder work have met with the same difficulties in perfect drainage as I have met with in my work, and that if they will take the occasion to use the apparatus which I have devised they will be satisfied with the results.

By perfect drainage you render your patient comfortable, the bladder does not become distended, clots can not form, the dressings are dry, the bladder can not fill up and run down alongside into the dressings, thus irritating the wound, which prevents healing, and can not trickle into the tissue of the pre-

vesicle space and endanger the patient to sepsis. I have used this apparatus in a large number of cases and feel, without a doubt that my satisfactory results have been due almost entirely to perfect drainage.



Apparatus for complete drainage of bladder following suprapubic or perineal cystotomy; A, reservoir for water; B, stopcock for regulating the flow; C, cup weighted in the rear to hold in place when empty; D, funnel to catch the water when the cup tips on being filled with water; E, long tube which connects the funnel with the Y-shaped glass tube; F, Y-shaped glass tube; G, tube connecting the drainage tube from the bladder with the Y-shaped tube.

I might call attention to another important feature of the drainage apparatus herewith described; with its use one can readily tell how much urine the kidneys are excreting. This is accomplished by measuring the fluid in the reservoir, also the urine blood and water in the receptacle under the bed, subtracting this former amount from the latter, the difference being the urine and the blood. This knowledge is very essential as it is an aid to know the functional capacity of the kidneys.

I might suggest a precautionary step to be taken in regard to placing the drainage tube in the bladder. Care must be taken that the end of the tube does not come into contact with the floor of the bladder.

Two cases of anuria have occurred in my practice, produced reflexly by irritation of the tube in the bladder, it was necessary in both cases to remove the tube. Shortly afterwards there was a copious flow of urine, there had been no urine in the bladder, as was shown upon removal of the tube, and the tube was proven not to have been blocked in any way. It has been my practice for several years to endeavor by the recognized tests to estimate the functional activity of the kidney, not only in cases where surgical work is to be done upon the kidney, but whenever it is necessary to operate upon any portion of the urinary tract. It is very important in operations upon the prostate, particularly when the condition has been of long standing and there is danger of kidney complications.

During the first twenty-four hours the drainage apparatus is so set that it will empty the bladder completely every five minutes, during the second twenty-four hours every ten minutes, thereafter every fifteen minutes. The apparatus will carry out its function no matter what the position of the patient, he may be in the dorsal position, may be reclining in bed, or sitting up in a chair. The apparatus is employed for five or six days, when the tube is withdrawn. During the first twenty-four hours a metal catheter 28 F. is passed per urethra into the bladder and the bladder irrigated with formalin solution 1-4,000, followed by injection through the catheter of one of the silver salts. I prefer a 2 per cent. solution of nargol, which has acted most favorably in my practice during the last six or seven years. The outflow of solution is through the drainage tube. This procedure is carried out daily for three weeks. During the third twenty-four hours the patient is allowed to sit up in bed and the next day, the fourth day, he is allowed to sit up in a chair. He is encouraged to sit up daily and walk about as much as he can, usually within three weeks the patient may leave the hospital.

From the time the patient leaves the hospital until at least six months have elapsed he should be kept under observation. This sometimes is difficult, owing to the fact that the patient comes to us from a distance, however, his treatment should be carried out by his physician.

I suggest irrigation of the bladder at least once a week for several months, oftener if there is evidence of pus in the urine, the urethra should be dilated occasionally. After six months I insist upon a cystoscopic ex-

amination, and if the bladder is, at this time, normal in appearance, the patient in a comfortable condition, he is discharged. Keeping the patient under close observation is very important as complications are so apt to occur. We are familiar with the frequency with which there is the formation of vesicle calculus following operation, especially in septic cases. Careful treatment will prevent all these untoward sequelae.

So many patients come under my observation as cured, suffering with symptoms nearly as annoying as prior to the operation, pain, frequency, both by day and night, and with a severe cystitis, where if proper care had been given after the prostatectomy had been performed, there would have been, in the majority of cases, excellent results.

I might suggest that if a well-outlined course-treatment be instituted along the lines indicated above, that the result will be surprising. The patient will be more comfortable during the first few weeks following operation, and when he is allowed to depart he will do so as nearly recovered as it is possible to get these old men.

THE NEWER METHODS OF TREATMENT OF DISEASES BY HYPODERMIC MEDICATION.*

By CURRAN POPE, Louisville.

You will, of course understand that in presenting this little talk to you concerning the newer methods of treatment of disease by hypodermic methods, I am simply going to give you in an impromptu way the results of a long number of years of experience I have had in treating the anemias and other diseases by hypodermatic medication.

I would like to say at the outset that I am wedded to hypodermatic medication of all kinds, and believe in hypodermatic medication we come nearer to getting the *actual* action of the drug *physiologically* than by running the risk of having it undergo transformation in the digestive tract, as well as the uncertainty of absorption. Essentially the effect of medication does not occur until it is within the mucous membrane of the gastrointestinal tract. Until it has been literally digested, assimilated and absorbed, you cannot possibly expect to get the physiological action of a drug, nor can you get its influence upon pathological conditions until that has come about.

We know that the chemistry of digestion is a somewhat unsettled and unfixed proposition in a great many individuals, and consequently medicaments introduced per *orem*

are apt to be changed and be absorbed in a different state in which they have been prescribed. For that reason, wherever it is possible, I am inclined to believe that the administration of a medicament by means of the hypodermatic syringe is not only the safest but the surest way of getting at the influence of the particular drug upon the patient.

Now, coming more particularly to a consideration of the administration of, for instance, the irons in anemias, I do not hesitate to say that, I believe, I have used iron hypodermatically in the anemias longer than any man in the State of Kentucky. I have been using iron hypodermatically for twelve or fifteen years. For a long time I had imported for me the Italian ampules of the various forms of iron, in order to administer the arsenate and citrate of iron. I have found the citrate of iron hypodermatically administered far more satisfactory and certain in the anemias than any other form of iron, although in certain cases that point toward chlorosis we will find a combination of the citrate of iron and the arsenate of sodium or arsenate of iron of great value when given hypodermatically.

Passing to another condition I rarely ever, in my specialty, attempt to treat syphilis by any other means than by hypodermatic medication. I meet with many syphilitic affections of the nervous system in my practice, and am wedded to the hypodermatic administration of mercury, preferring the salicylate to every other form. I have tried a great many forms from gray oil to the bichloride and other preparations, but have finally settled on the salicylate and use it almost exclusively, alternating it now and then with the administration hypodermatically of the trioxide of arsenic, which is the old arsenous acid. I believe we get quicker, better and surer results from the hypodermatic administration of these drugs than we would by the long continued administration of mercury by the mouth. In nervous syphilis, particularly in syphilis of the brain and cord, we often find our patients anemic and run down, speaking in general terms. I have always felt that by giving mercury hypodermatically I save my patients' stomach, so that I was able to treat him dietetically just exactly as I would treat a tuberculous patient. In other words, while trying to overcome the toxemia of syphilis I have his stomach for the food that would act as a reconstructive, and these old cases of cerebral and spinal syphilis are benefited by careful dietetics, careful rest, careful attention to elimination, just as a tuberculous patient would be.

With regard to atoxyl, I was one of the first to employ it in this section of the country; I

*Read before the Kentucky State Medical Association, Paducah.

had some of the first tablets which were brought to this country.

I was much interested in the publication concerning atoxyl in one of the German medical journals, and hearing that Sharp and Bohne had these tablets I wrote to them to get some. I used them, but I must say, that I am afraid of atoxyl. I have seen some disagreeable results from it, and I believe we can get as good and far safer returns in the administration of arsenic hypodermatically than from the use of the old trioxide, which produces bad effects, gives the full arsenical influence and avoids paying the high price for a rare drug, and that is some consideration, for atoxyl and some of the other preparations are expensive.

I have used caedylate of sodium considerably. I wish I could give practically all of my medicines by means of the hypodermatic syringe.

Now as to the value of hypodermatic medication in the anemias. We should judge of the value of iron not only by the clinical symptoms but by careful blood tests as well in addition to a careful study of the patient, and his clinical symptoms. The moment you begin to divorce the patient and depend entirely upon your laboratory work, that moment you are going to make mistakes, but at the same time a man can check up and watch the work, the results of his work, in a given case by means of blood counts, and by means of his hemoglobinometer, and from time to time learn the effects of the remedies that he is administering.

As I said at the outset, I believe the hypodermatic administration of iron and of arsenic will not only bring surer results, but will bring better results, without the slightest harm to the patient. There are a great many patients who say they cannot tolerate the iron. I have found many who said they could not, and yet who took iron well hypodermatically administered. As to whether their inability to tolerate the iron was a psychic problem, or whether there was by the iron formed in the digestive tract some condition that affected them unfavorably, I do not know. I am prepared to say, but I do not say that a great many of them would complain of vasomotor symptoms, of flushing, fullness of the head, a disagreeable feeling in the head, and they would say, "Doctor, I cannot take iron." I have said to them, "That is all right; we will give you something else. We will not give you anything by the mouth. We will give you some hypodermatic medication," and in giving them the iron hypodermatically they have not only tolerated it, but have assimilated it, and have been benefited the blood count and hemoglobin rising under its administration, and I have rather thought

that it was largely a psychic influence of the iron. It is always well to commence with comparatively small doses of arsenic. There is no question but what a great many people have an intolerance to arsenic. I have found quite a number, and I would recommend to any one starting to use these drugs hypodermatically, that they start with a small dose of the arsenic. By starting with a small dose and gradually increasing it is much better for the patient. I usually employ daily injections of both iron and arsenic or the iron and arsenic mixed, and sometimes I employ iron, arsenic, and some form of the glycerophosphate, in that way getting extensive medication in one single hypodermatic administration. But it is a good plan never to start with a maximum dose. It is better to start say with a third the first day, a half the next, two-thirds the next, three-quarters the next, and so on, until you reach the maximum dose you care to give. If given in this way, you will find it brings about a gradual tolerance on the part of the patient to the drug until you reach the maximum effect, and until you gain the desired physiological influence of the remedy.

Gentlemen, I trust you will pardon these impromptu remarks I have been making. I have had really no chance to make any preparation upon the subject and I have only spoken at the request of the president, in order that the vacancy on the program might be filled. I have tried to give you as far as I could in condensed form the practical experience that I have had in the last ten or twelve years with the administration of these remedies by the hypodermatic needle. I thank you.

DEEP INJECTIONS OF ALCOHOL FOR PERSISTENT NEURALGIA.*

By E. A. STEVENS, Mayfield.

To those who are familiar with the treatment of persistent neuralgia by the deep injection of alcohol as practiced by Levy and Baudoin of Europe, and Patrick of this country, this paper has but little that is new. Its purpose, however, is to show that this work can be done by the general practitioner if he knows his anatomy, if a specialist is not available. Many of these cases are permitted to suffer for years because they are not able physically or financially to go to the specialist. Many of these people are between seventy and eighty years of age.

The men above mentioned have used slightly modified alcohol for the injecting fluid with only slight difference in the formula.

*Read before the Kentucky State Medical Association.

†Admch.

Osmic acid has been used, but alcohol seems to be the preferred fluid. I am indebted to the writings of Dr. Patrick, of Chicago, for the technique of the work on the different divisions of the trifacial nerve. I also use the solution which he recommends, but both method and solution he says he got from Levy. He uses 85 per cent. alcohol (not absolute) with four grains of cocaine to the ounce. He first used a little morphine and chloroform in the injection, but he has abandoned them and thinks he has less trouble than when he used them as the morphine especially produced troublesome vomiting in some cases. He uses a blunt needle one and five-tenths millimeters in diameter, ten centimeters in length, with a stylet to avoid puncturing a blood vessel. The stylet is withdrawn after the needle is started. It appears to me that this needle is so large that it is more painful than is necessary, and it has been abandoned for a sharper and smaller needle without stylet by most of the European physicians. For many years in different ways injections have been tried for this malady, usually attempting to inject the nerve at its exit near the surface instead of at its deep exit from the cranium. This method gave partial relief in many cases, but was seldom an entire success for any length of time.

The present method attempts to inject the second and third branches of the trifacial nerve at the point where each makes its exit from the cranium, namely: at the foramen-ovale for third and rotundum for the second. When you go to examine the base of the skull you will find that the external opening of the foramen-ovale is not so hard to reach and is not surrounded by such important structures as the rotundum which opens into the sphenomaxillary fossa which is practically continuous anteriorly with the sphenomaxillary fissure, which is a passage-way into the orbit, and if the point of the needle goes too far forward it may enter this cavity through this sphenomaxillary fissure and certainly might result in damage to the tissues in the back of the orbit. Dr. Patrick mentions a case where the patient cried out when he pushed the fluid into the tissues that it produced such a queer feeling in his eye, and the resistance to the pressure of his syringe seemed to suddenly give way. He seemed to think he was using too much pressure on the syringe, but to me it seems more probable the point of the needle had entered the orbit through the sphenomaxillary fissure instead of going into the sphenomaxillary fossa. He says it did no serious harm.

The passage of the needle for these deep injections is quite painful, but not enough so to render a general anaesthetic advisable as you need the patient's sensations to guide

you. I give the technique of these injections as I find very few books contain it. I have not seen a text-book that contains a sufficiently lucid description of it to make its execution easy. Dr. Patrick's instructions for reaching the third division of the trifacial nerve is as follows: Find the descending root of the zygoma, which can always be felt and corresponds practically to the anterior bony edge of the auditory canal; measure two and one-half centimeters forward along the lower border of the zygoma; insert the needle at this point and push it in four centimeters, hugging the base of the skull and going slightly upward and backward; at the depth of four centimeters you should reach this nerve, and if you strike it with the needle the patient will likely say you have hurt his face or jaw, which will enable you to know beyond question that you are at the right spot. Two cubic centimeters of the above mentioned solution is then injected with moderate force into the tissues. It is accompanied by a slight increase in the pain which rapidly subsides, and in some cases, the most favorable ones, the paroxysms cease at once. To reach the second division at its exit requires more skill and more accurate knowledge of the anatomy of this region. To reach the nerve at its exit from the foramen rotundum it is necessary to get the tip of the needle into the sphenomaxillary fossa as it is in this space where you must find the nerve. To find this fossa draw a perpendicular line along the posterior edge of the frontal process of the malar bone as it ascends to articulate with the external angular process of the frontal bone. Where this line, if prolonged, would cross the lower border of the zygoma would be one-half centimeter in front of the point to insert the needle. Direct it slightly backward and upward so it will reach a lever of the inferior extremity of the nasal bones when it reaches a depth of five centimeters. If the needle is pushed too far to the front it will strike the posterior wall of the superior-maxilla, and if too far back, the pterygoid plate of the sphenoid before the needle gets in near the five centimeters. If you strike either it is best to almost withdraw the needle and try again. If the needle goes deeper than five centimeters it means you have either gone through the thin bones into the nasal cavity, or if too far in front, into the orbit. If it enters the sphenomaxillary fossa when it reaches the depth of five centimeters it meets a firm resistance and at this point you insert the fluid. The first division has been injected at its entrance into the orbit at the point where it left the sphenoidal fissure. That makes it necessary to pass the needle through the orbit very near to the eyeball and is not considered safe. The best plan seems to be to use the old

method on the first division and inject it at the point where it passes through the supra-orbital notch.

My experience does not cover many cases, but a few months experience with one case severe enough to make the patient moan with pain with enough vigor for you to hear him before you get out of your buggy when you make your visit will soon lead you to feel that your observation is sufficient. In my judgment all of these cases usually classified as chronic neuralgia are cases of neuritis, and I think that is the general opinion of those who have closely investigated the subject. Of course, this does not include those cases, the result of gross disease of adjacent organs. Neuralgia was originally believed to be a cry for more blood and better blood; but we know now that it was simply an inflammation of the nerve itself.

My first experience with chronic neuritis of persistent character was a case of sciatica in a man who had acquired the morphine habit. The last time I saw him he retained both the disease and the habit. The next was a woman fifty-five years old with neuritis affecting the second division of the trifacial nerve. I heard her screaming with pain before I reached her house. I saw her in consultation after many weeks of suffering. I made an incision down to the infra-orbital foramen and cut the nerve at its point of exit after stretching it as much as I thought it would bear. Her pain was better for months, but it returned quite severe in a year and I injected it with chloroform at its exit this time. The injection gave great pain and was followed by a marked induration that was slow in going away. It seemed to give some relief, but she continued to have attacks until she died a few years later with some acute trouble, but she was never quite as bad as she was before the first operation.

The next was a woman sixty-eight years old with a severe neuritis of the second division. I operated by incising the nerve at the infra-orbital foramen which gave her fair relief for a year, but it has returned but never quite so bad, not bad enough for her to be willing to have the deep injection made. Vibration and the analgesics gave some relief and she had nothing else done of an operative character.

The first case of injection with the alcohol mixture above referred to was in a woman of thirty-five years of age who had always had good general health but for two years had been suffering with pain in the third division of the trifacial, growing worse until she had had most of her teeth removed from the lower jaw without any improvement but a gradual increase in the severity of the paroxysms. I treated her for several months with medicine

internally vibration, and other things, only to see her grow continuously worse. I finally persuaded her to allow me to use the alcohol by deep injection. A small, blunt, long hypodermic needle was passed according to the technique given above, and just at the point where I expected to strike the nerve she gave a sudden cry of pain and said that I had hurt her jaw. I injected at this point. There was some shock attending it, marked pain, slowing and weakening of the pulse and a moderate perspiration. This lasted some five minutes when it entirely passed away. She said that her lower jaw and tongue were numb. The pain stopped almost immediately and while she says she occasionally experiences a sensation of heat in the jaw and an occasional mild touch of pain it is not enough to distress her, and she seems practically as well as ever. She was confined to her bed at the time of the injection and had been some days before. It has been fourteen months since this was given and she seems to all appearances perfectly well.

The second case was a lady seventy-one years old, six years standing, neuritis of the third division of the trifacial. I gave the injection in my office. She was able to get up in a few minutes and go home. Says she has never had a pain from that day to this. That was about three months ago. She had reduced in flesh from 180 to 120 pounds. She says that the treatment is the greatest thing in the world. Her family said that her moanings and distress were so great that it kept every one miserable around her.

The third case I saw with Dr. Jackson, at Arlington, a woman about fifty years of age with involvement of the trifacial nerve. I injected the second division at the point above mentioned, at which time she cried out that I had put the medicine into her nose and upper lip. Knowing that it could be put into the nose, I thought I had pushed my needle too far, but when she said part went into the upper lip I knew that it was but the sensation of the medicine upon the nerve itself. Within a few minutes after the injection she said her face was easy but there was still a pain over the eye running back toward the ear. Hoping that it would not be necessary to inject the first division, I did not inject it but left the case with Dr. Jackson with the understanding if she was not relieved in twenty-four or forty-eight hours that he would inject the first division at the supra-orbital notch, which he reported to me that he had to do. He told me in a later report that she had apparently entirely recovered.

These are all the cases of injections of the trifacial that I have to report, but believing that practically the same condition exists in sciatica that did in neuralgia of the trifacial

nerve, I tried this treatment on three cases of sciatica using a needle of a similar character to the one I used in the trifacial injections, making it a little blunt so that I could feel when it struck the white fibrous tissue of the sciatic nerve. My effort has been to pass the needle through the nerve where it passes between the tuberosity of the ischium and the great trochanter. A blunt needle can be felt tearing the fibres of the sciatic nerve quite sensibly as it passes through. As soon as the needle perforates the nerve I inject the same quantity, two cubic centimeters that I injected into the trifacial. The reason why I do not try to put it into the nerve itself is I know that it may produce at least a temporary paralysis and as the sciatic is a mixed nerve you do not care to paralyze the motor part. It is more difficult to paralyze the motor nerve than it is the sensory as the efferent current is much more powerful than the afferent current. There seems to be an affinity for alcohol in the nervous tissues and if it comes in contact with it the nerve tissue seems inclined to absorb it. The lecithin seems to be the most important part of the nerve. Alcohol dissolves the lecithin and there is reasonable ground for believing that it acts somewhat like cocaine does in blocking the nerves and producing anesthesia at its points of distribution. Acting on this idea a very short time after I injected the first trifacial nerve with alcohol, I injected the sciatic in the case of a stout young man with a persistent sciatica that had resisted the usual medical treatment. He recovered promptly and his physician who referred him to me says he has had no return of it.

The second was a young man about thirty-five, confined to the bed for several weeks with sciatica. I injected him in the same way. In a few days he was able to be up and has continued up ever since, more than a year, but still complains of considerable pain. This is a case where I think a little more prudence might have led to a cure without an additional treatment which I would advise, but which he has not taken.

The third case was one of a very busy lawyer who was taken with sciatica and whom I treated for about three weeks with the usual medical treatment and vibration. He improved slowly and was able to go to the office but had to lie down most of the time. At the end of three weeks he called me to his home again and I found he had had a sharp relapse and was suffering as bad as ever. I gave him the injection of alcohol with enough morphine for immediate relief, the latter of which he had had before two or three times in this same region. The next day he was able to go to his office and improved rapidly, and he

tells me that he is entirely recovered except for a slight weakness in that leg.

The seventh and last case is one of neuritis of the median nerve, occurring in a drummer who is now about fifty years of age. He has had it for six years. He seemed to get the trouble started in his thumb. He has only one arm and in traveling much of the time had to carry two grips. If any of you will pick up two grips in one hand you will find that one of them will press severely upon the branch of the median nerve which is distributed to the inside of the thumb. Having only one hand it could never get any rest when he was at work, and the continuous pressure set up an inflammation of this branch which extended up the nerve to the shoulder. For six years he has been a great sufferer. I have done everything in the way of medical treatment that I could and he has gotten no relief. The median nerve is made up from the inner and outer cord of the brachial plexus and gets fibres from the sixth, seventh and eighth cervical and first dorsal nerves. Having exhausted everything else, I persuaded him to let me try the alcohol injection on these nerves. My first injection was at the lower border of the axilla, but the axillary artery and the cord from which the median comes lie so close together that it was difficult to inject one without endangering the other. From this injection there was no relief. I then undertook to inject the different divisions of the nerve at their points of exit from the spinal column. I gave him three injections, the last of which was thrown into the sixth division and was followed by partial paralysis of the circumflex nerve. The original pain was much diminished, but the tenderness in the shoulder and arm was much increased. I think the slight paralysis and soreness will soon disappear. Whether the paroxysmal attacks of pain will return with their severity only time can tell. This case was one of a distressing character because it practically disabled the only arm he had.

My opinion of the method of cure or relief in these cases is that it produces a temporary paralysis which amounts to a physiological rest. During this rest the nerve temporarily recovers from the neuritis but being weakened by the previous disease the history of this treatment indicates that it will return in from one to three years after the treatment, though some of them seem to be permanent. There are few more painful maladies and if this will relieve them even for the time mentioned it is well worth the trial. It is not claimed that it will relieve all of them, neither will the operation on the Gasserian ganglion relieve them all, but it seems to give equally as good results as the removal of the ganglion and is much safer, many of them being too

old to have the radical operation performed with any degree of safety.

The question naturally arises, what is the danger in the treatment? Dr. Patrick says practically none. I do not think the danger is great, but I think there is some danger of injuring the eye through the spheno-maxillary fissure when injecting second division, or possibly with a sharper needle penetrating a small blood vessel which might give you a troublesome clot if nothing more, but the relief is well worth the slight risk. A small artery from the superior-maxillary passes through foramen-ovale with the third division.

PROGNOSIS AND TREATMENT OF TYPHOID FEVER.*

By C. R. GARR, Flemingsburg.

There being so many complications and sequela to typhoid fever a prognosis is attended with a high degree of probability.

So large number of factors having a direct bearing on the outcome of this disease the most astute observer cannot foretell many grave dangers that might suddenly arise.

The age of the patient influences our prognosis. The age of least mortality is below 15 years. The death rate is greater in patients past 40 years.

The virulence of the infection is also an important factor. I have seen some epidemics in which most every case was severe, protracted and in which the mortality was higher than in other epidemics the cases of which would run a milder course.

Much depends on the individuality of the patient.

Alcoholics are bad subjects as their tissues and their vitality is at low ebb.

The prognosis is more unfavorable in the obese than in the muscular as it is difficult to control the fever through a thick layer of adipose tissue.

According to the statistics of Shallen¹ season plays an important role in our prognosis. In 68,943 collected cases in Philadelphia in the years January, 1898 to June 1909 the average mortality was 11.75 per cent.

The average number of cases for July was 13 per cent to 17.61 per cent and dropped to 11 per cent, in August and 10 per cent, in September.

The average number of cases for July was 275 while for September it was 450. According to this series of cases the mortality was greatest in July when the average number of cases was fewest.

Pregnancy increases the danger, not so much from the enteric itself as from the re-

sultant abortion which occurs in 65 per cent. of the cases.

Another factor most important in our prognosis is the nursing and treatment the patient has. It is these cases neglected or partially so that increase the mortality.

These cases not properly cared for are subject to hemorrhage or perforation from improper food and to decubiti from a sloven bed.

I have recently lost two cases sheltered in only a shack, every member of the family being sick and without friends and funds, cases which could most likely have been saved had a public nurse or hospital has been available.

Perforation occurs in from 1 to 2 per cent. of all cases and is of greatest significance².

Again our patient may be well through his convalescence only to have an unforeseen relapse or a serious complication or sequela which means weeks of further suffering and possibly death.

Much is being written on the association of the liver abscess and gall-bladder disease and typhoid fever. E. M. von Eberts³, M. R. C. S. (Eng.) has collected several series of cases of liver abscess occurring with or following typhoid. In 200 fatal cases on which autopsies were done at the Pathological Institute of Munich 12 cases of liver abscesses were found.

Dopfer reports 927 cases with 10 deaths of abscess of liver, while Le Grand reports 6 cases of liver abscess in 133 consecutive typhoid in New Caledonia.

There are numerous sequelae, too numerous to detail, a fact which makes our prognosis certain and I shall call attention to but one other, that of typhoid spine.

There are but 82 cases reported. It was first described by Gibney in 1889 and coming on as it does during or after convalescence is one more pitfall to the prognostician.

The usual mortality is estimated at 14 per cent. for Europe and 8 to 12 per cent. for this country by prominent observers.

TREATMENT.

In enteric fever as in many other diseases we who have been practicing longer than we like to tell have seen vast changes in its treatment. This gradual evolution has brought us to a point where we realize that our chief duties in the treatment of this self-limited disease are prevention of its spread, directions for proper nursing and feeding, and a vigil eye for danger signals.

Prophylaxis is accomplished by destruction of all the bacilli in the dejecta of the patient.

The feces, urine and sputum must be disinfected as it is from these a water⁴ supply may become infected.

For disinfection of the dejecta milk of lime should be added to the bed-pan and allowed to stand for an hour. Chloride of lime can be

*Read before the Kentucky State Medical Association, Paducah.

used. This is highly important and one of the physician's chief duties.

The bath water should also be disinfected as this is a source of infection when emptied into the sewer or thrown in the back yard.

The patient must also be placed in a room well screened so that flies cannot carry the infection to food.

If the water supply is already infected all water should be boiled for drinking and cooking purposes.

The bed linen must also be boiled in soda water. Too much emphasis cannot be laid on the disinfection of the excreta and everything else that can carry infection.

In the past few years much has been done towards prevention of typhoid by inoculation with typhoid vaccine. The results of this are best seen in the mobilization of troops, they being subjected to water from many sources.

In the recent maneuvers in Texas typhoid fever has been almost nil, due to the vaccination of the soldiers, and in the maneuvers in Tennessee, as reported by Lyster², typhoid developed only in those soldiers who had not been vaccinated.

This certainly is a great advance over the days of the Spanish war when 86 per cent. of the mortality was due to typhoid fever and one out of every five soldiers was infected³.

The vaccine immunizes the blood against the infection by causing an increase in the agglutinins and opsonins⁴. 100 to 500 millions bacilli are injected and the dose repeated twice three or four days apart. In five or six days sufficient antibodies are formed to cause immunity.

The room should be light and airy. The bed with a firm mattress and instructions given to keep the bed linen smoothed out, and as free from wrinkles and knots as possible for herein lies the prevention of the much dreaded bed-sore.

The patient's mouth should be washed several times daily, sordes cleaned from the teeth and the tongue scraped with a whale bone. A splendid mouth wash is one-fourth vinegar, three-fourths water and a little salt.

The last word has not been said in regard to feeding our typhoids.

The Germans advocate much feeding and from the liter Americans are following them.

Nourishment should be given regularly but little at a time, and as long as tympany is absent the nourishment should be increased.

I am opposed to sweet milk but use butter-milk throughout the course. Chicken-broth, whey, gelatine, the white of an egg beaten and flavored with much brandy, orange juice, lemonade, (sweetened but little), beef tea and a little cream, can be given at intervals of two hours as long as there is no gas. Solid food should not be given. A malted milk tab-

let is often relished by the patient and I've seen it do no harm.

When the fever is normal the diet can be increased each day so that at the end of a week the patient is taking care of solid food with no difficulty.

A dose of oil should be given at the outset but saline enemata daily or every other day are better than continued purgation. The enemata relieved the tympany also.

For the fever the tepid bath gradually cooled seems best. Start the bath with tepid water with a small lump of ice in the bowl. The sponge bath must be repeated sufficiently often to keep the temperature between 101 and 102. In giving a sponge bath the limbs should be well rubbed creating friction which increases the skin circulation and cools the blood as it passes through the capillaries.

In addition to the sponge bath the patient should have a toilet bath with soap and water each day.

For tympany turpentine gtts x and enemata once or twice daily seem best. Some advise physostigmine but I have never seen it do good.

Diarrhea often needs treatment. Camphor, opium, and lead acetate a. n. gr. 1 is indicated, or bismuth and chalk mixture.

Headache is relieved by an ice coil to the head.

As for intestinal antiseptics I'm in doubt whether they do good or not. Salol, acetozone, sulpho carbolates, and many others are advised but my cases seem to do just as well without them as with them.

The heart must be looked after from the start. It is this organ that suffers most from the continued pyrexia.

In severe cases it most always is necessary to stimulate the heart during the third and fourth weeks. Strychnine grain 1-30 hypodermically seems best. Camphorated oil is a valuable adjunct when stimulation is needed in impending collapse.

For hemorrhage—powdered opium or morphine—absolute quiet and no food.

For perforation—surgery.

For the many other conditions that arise systematic treatment.

In conclusion I wish to call attention to the treatment of typhoid fever with vaccine. Walters and Eaton give a summary of 36 cases so treated with the following results:

Average duration of fever with vaccine—15.5 days.

Without vaccine—25.3 days.

Average residence in hospital with vaccine—39 days.

Without vaccine—57 days.

Jos. G. Collison has collected 323 cases treated with doses of various sizes and a mortality

5.2 per cent. He believes it should be used in the treatment as well as a prophylactic.

1. *Medical Record*, October, 1910.
2. Huckner and Oppenheimer, *N. Y. Medical Journal*, February 12, 1910.
3. *Modern Clinical Medicine*.
4. *American Journal Medical Science*, June, 1911.
5. *Military Surgeon*, May, 1911.
6. *Boston Medical and Surgical Journal*, Jan. 5, 1911.
7. Jos. G. Collison, *Medical Record*, June 24, 1911.

SERUM AND BACTERIN THERAPY.*

By W. M. FLOYD, Henderson.

In offering this paper upon "Serum and Bacterin Therapy," I wish to disclaim any original contribution to the literature of the subject and also to give full credit for anything of merit that it may contain to those from whom I have quoted liberally.

The current literature upon the subject and especially that found in the *STATE JOURNAL*, *The Southern Medical Journal* and the *Journal of the A. M. A.*, whether in abstract, editorial or otherwise, I have laid violent hands upon. Iron's (of Chicago) article on Serum and Vaccine Therapy and Schorer's Vaccine and Serum Therapy have been carefully gleaned and largely quoted.

If we succeed in condensing the literature at our command and in drawing those inferences that our present light seems to warrant on this most promising field of therapeutics our effort will be well worth while.

Inasmuch as serum and bacterin therapy has for its objective the sensitization of the body complex to enable it to resist or overcome infection and to render it immune to infection for a variable period of time, a study of this subject resolves itself largely into a study of what are infection and immunity and how they are acquired.

Schorer defines infection as the entrance of micro-parasitic living organisms into the body tissue or substance and the occurrence of definite symptoms of disease as the result of the multiplication and action of the invading organisms.

Since infection does not always occur when pathogenic micro-organisms are present in the body tissues, it follows that certain conditions or relations are necessary to the development of a bacterial disease.

These conditions divide themselves into two classes, viz: those dependent on the biological properties of the infecting organism and those dependent upon the condition in the host or tissue invaded.

Of those conditions dependent upon the biological character of the organism those most important are the ability of the organ-

ism to multiply rapidly and the virulence of the organism or the poison it produces to some or all of the tissues of the body.

The number of organisms necessary to produce a diseased condition of the body varies with the different species; for example the innumerable saprophytic bacteria found in the different parts of the body fail to produce an infection because of their inability to produce poisonous substances in quantity sufficient to overcome the body's resistance; many staphylococci are required to produce a furuncle while a very few anthrax bacilli will cause anthrax.

Of the conditions of the host or tissue that have to do as determining factors in infection those most important are as follows:

First, the insusceptibility of certain tissue to certain invading organisms, for instance the immunity that domestic animals enjoy against venereal diseases;

Second, the mode of entrance and location of the invading organism plays an important role, for instance, the spirillum cholerae can produce its typical infection when it has entered the body through the small intestines. When introduced through the skin it produces no disease. The bacillus of tuberculosis as well as certain other organisms, on the other hand can produce their symptoms complex whether they enter the body through the skin or mucous membrane;

Third, the body fluids, lymph glands and phagocytes offer resistance to invading organisms and age, sex, race, occupation, etc., in some unknown way repel infection.

From the foregoing it is evident that any organism that produces an infection must invade the tissue susceptible to its action, multiply, produce poison and overcome the body's resistance.

The action of an organism in producing its symptoms complex varies with the specie; for example the staphylococcus produces its infection in localizing areas; the typhoid bacillus, though causing lesions in the glands of the intestines, are usually present in the blood stream, while the tetanus bacillus forms a toxin that is distributed throughout the body.

Because of this tendency of the various organisms to produce certain conditions in the tissue, the virulence of an infection is largely determined by discovering the micro-organism that produces it.

The degree of resistance offered by the host or tissue to any invading organism is measured by its sensitization to that particular organism. This sensitization is known as immunity, and is either natural or acquired. Natural immunity may be an immunity of individual or race or specie. Individual immunity may be at times more apparent than real, for instance, when the acidity of the

*Read before the Kentucky State Medical Association, Paducah.

stomach is sufficient to destroy the spirillum cholerae before it reaches the alkalined bathed epithelium of the intestines.

Acquired immunity only results when an individual has passed through either a natural or a modified course of an infection or has received substances prepared by some other individual or animal that has done so. In the first case the immunity is said to be actively acquired and in the latter case to be passively acquired.

Natural immunity is usually more persistent than acquired immunity because it is due to an insusceptibility of the tissue to the toxins while in acquired immunity the tissues are protected by the presence of immunizing bodies circulating in the body fluids and these substances are being constantly eliminated through the excretions.

Some bacteria discharge their toxins and maintain their virility and of these the toxins are said to be extra-cellular. Other bacteria discharge their toxins only upon their death and disintegration, and of these the toxins are said to be intra-cellular.

Because of these facts the immune bodies formed in the tissues when an active immunity is acquired are variously named according to their functions. Those that neutralize the extra-cellular toxins are known as anti-toxins and those that act on the invading organisms are known as anti-bacterial.

Various theories have been advanced to explain how these immune bodies are formed in the body. Klebs and Pasteur claimed that certain substances necessary as food for the immunity necessarily followed. Chauveau held that certain products in the body which protect the body tissues from further invasion by that particular parasite. Metchnikoff believed that immunity was obtained by the ability of the white blood cells and cells of certain organs of the body to engulf and destroy the invading bacteria. Salmon and Smith, Foa and Benone, Roux and Chamberlain and others observed that the products of bacterial metabolism produced immunity when injected into the tissues and held that the body tissues are chemically changed in immunization. Fodor observed that the normal body fluids and especially the blood contained substances are able to destroy bacteria.

Numerous theories by other prominent investigators have been offered to explain the observed facts, but that of Ehrlich advanced in 1897 stands out prominently. His side chain or receptor theory is an effort to explain the observed facts on a chemical basis and it is both unique and plausible. He believes that each cell of the body consists of a dominating nucleus and a number of side chains or receptors. These receptors are pri-

marily for the nourishment of the cell and secondarily for its protection. Through these receptors it has various powers of combination; for example it may anchor and assimilate food stuffs or it may combine with substances poisonous to the cell. The combination of the receptors with foods is so loose that after causing the food to undergo such changes as may be necessary for the nourishment of the cell the surplus food is discharged without injury to the receptors. On the contrary, the union of receptors with substances poisonous to the cell is so firm that they can not be separated and the cell discharges its receptors thus anchored. If the poison anchors enough of the receptors of a cell to prevent its assimilation of food the cell dies and if a sufficient number of cells which have vital functions to perform are thus destroyed death of the individual follows. On the other hand if there is not enough of the poison to destroy the life of the cell immunity results or follows.

Ehrlich assumes that when a poison fails to produce the death of a cell by anchoring a sufficient number of receptors that the cell is stimulated to the production of other receptors and this production of receptors is continued till there is an excess of receptors produced which excess is thrown off from the parent cell and constitutes what he calls an anti-body. These discharged receptors are sensitized to the bacterium or toxin that stimulated the cell to their production and constitute the body's bacterin or anti-toxin for that particular infection.

Ehrlich further assumes the cells have receptors that differ in their combining powers and he would divide these into three groups. Anti-bodies formed from receptors of the first order he says are anti-toxic, those formed from receptors of the second order he thinks are anti-bacterial, and those formed from receptors of the third order he also classes as anti-bacterial. Receptors of both the second and the third order he assumes have two combining poles and differ from each other in that the second pole of receptors of the second order enter into no combinations but exercise a catalytic influence upon the bacteria rendering them more susceptible to the action of the first pole; while the second pole of the receptors of the third class has the power of combining and anchors a ferment-like substance, which he calls complement, that enables the ambceptor to dissolve the bacteria. Thus we see that anti-bacterial bodies developed from receptors of the second order are agglutinating or precipitating, while those from receptors of the third order are lytic.

Wright and Douglas in 1903 and Newfeld and Rimpau in 1904 discovered that in ad-

dition to the anti-bacterial and antitoxic substances already mentioned that both normal and immune sera contained a third substance which the former named opsonin and the latter called bacteriotropin the action of which seems to be similar to if not identical with that assigned by Ehrlich to the second pole of his second class of receptors. The opsonic index is a measure of the potency of normal sera to dispose of bacteria or toxin and is of value as a guide in the administration of bacterins or immune sera.

Bacterin therapy, which is the administration of killed cultures of pure strain or strains of bacteria, is for the sensitization of the tissues by the development of immune bodies and the stimulation of the phagocytic action of the leukocytes (all of which Wright calls the raising of the opsonic index) and is valuable for diagnosis, as in tuberculosis, for prophylaxis, as in rabies, small-pox or typhoid fever, for the treatment of subacute or chronic conditions, as the sequelae of gonococci infection or the chronic infections of staphylococci origin.

Serum therapy is the introduction of prepared immune substances into the body tissues for the destruction of bacteria or the neutralizing of their toxins and is valuable for prophylaxis, as in diphtheria or tetanus, and for the treatment of the acute bacterial infections as in diphtheria, epidemic cerebrospinal meningitis and certain forms of dysentery.

It would unduly extend this paper and trespass upon my time limit to note the merit of the many applicants for consideration in this large and rapidly growing field of therapeutics. We shall therefore summarize the results attained by bacterin and serum therapy and leave for your discussion of the subject to develop such features as preparation of remedy, indication for use, strength of dose, reaction, interval between doses, site, preparation of site and manner of administration.

It is most gratifying to note with reference to small-pox that instead of being the scourge that it was before the days of Jenner, with a death rate of from 35 to 50 per cent, that now the mortality (thanks to vaccination) is less than 5 per cent, and including those who have been wholly protected by their vaccination the mortality is reduced to the fractional part of 1 per cent.

In ordinary cases of diphtheria most statistics show that if antitoxin is used on the first day that the mortality is practically nil; if used on the second day that the death rate is below 5 per cent; when not used before the fourth day that 20 per cent, succumb; and 50 per cent, die if antitoxin is not used at all.

In rabies the results of bacterin treatment are most gratifying. Whereas from 50 to 80 per cent, of patients bitten by rabid animals who did not have specific treatment succumbed to the disease; the mortality under bacterin treatment is only 5 per cent.

In 1903 from 4,449 Fourth of July accidents there were 406 deaths from tetanus; in 1907 from 4,413 similar accidents with the very general use of tetanus antitoxin there were but 62 deaths from this cause.

Not less remarkable are the results of bacterin treatment in typhoid fever. Maj. F. F. Russell, M. D., U. S. A., reports that observations covering a period of 18 months during vaccinated against typhoid fever were as follows: of the vaccinated there were five who had typhoid fever with no deaths; of the unvaccinated there were not thirty but 418 cases of typhoid and 32 deaths. He also says that in the English army that regiments that have less than half of their personnel protected by vaccination against typhoid are not considered properly prepared for field service.

In certain forms of dysentery, notably that type produced by Shiga's B. Dysenteriae which secretes an extra-cellular toxin, the mortality has been reduced by the use of Shiga's serum in the epidemics as they prevail in Japan from 22-26 per cent, to 9-12 per cent. Vaillard and Dopfer have collected statistics on 200 cases treated with serum with a mortality of only 2 per cent. The disease as it prevails in the U. S. and especially among children is produced by a bacillus, the toxin of which is intra-cellular and it has not been markedly influenced by serum therapy.

The treatment of meningitis, when due to diplococcus intracellularis infection, by Flexner and Jobling's serum is not old enough to warrant a statement of comparative data. Flexner and Jobling, however, have summarized the results of the treatment of 400 cases thus treated by various clinicians as follows: the period of illness is shortened, the chronic lesions are largely prevented and the percentage of mortality is markedly reduced. These observations clearly suggest that this serum is indicated as a specific therapeutic measure.

The results obtained from bacterin or serum therapy in bacillus coli, staphylococcus, streptococcus, gonococcus and pneumococcus infections have not been so brilliant as those we have just mentioned, yet in so many instances have they apparently so favorably influenced the course of their respective infections that they merit more extensive use. This is particularly true in the treatment of the sequelae or in subacute or chronic conditions produced by these infections.

Our knowledge of the nature of the antibody produced by bacterin therapy for tuber-

culosis is still indefinite. Koch, Wright and others think that it is bacterioidal while Denys, Trudeau and others hold that it is anti-toxic. Before tuberculin can be scientifically applied as a therapeutic measure it is necessary to determine the part played by the moderate reaction in the tissues and what is to be accomplished by immunization with tuberculin. As a remedial agent tuberculin is most used in the treatment of tuberculosis of joints, bones, glands, skin and urinary bladder. Thus far the most valuable use of tuberculin is as a diagnostic measure.

In incipient cases of tuberculosis, when they are not recognizable by other means, tuberculin excites a positive reaction. This vantage ground renders possible the successful combatting of the disease by hygienic, dietetic, climatic and medicinal measures, in approximately 90 per cent of cases.

Much as has been accomplished in this field of therapy, we are but upon its threshold and we confidently expect that its development will give us a specific therapeutic measure for every micro-organic infection.

In 1905 V. Pirquet and Schick originated the term serum diseases. They observed two rather definite types; one which resulted from the first injection and another which followed the second or subsequent injections. The first type manifested itself in from eight to twelve days and is largely independent of the size of the dose used. The symptoms of the first type most commonly observed are fever, exanthema (most frequently as urticaria) usually intense itching, joint pains and at times swollen and painful glands.

The second type varies somewhat with the interval between the injections. If an interval of twelve to forty days occurred between the injections the disease may develop in less than one hour; if the interval is from forty days to six months there may be an immediate reaction; if more than six months interval occurs the symptoms develop in from six to twelve days; if the injections are made at intervals of six days or less there will be no reaction of the second type. The symptoms of the second type are usually more acute and general than those of the first type. Gay and Southard in 1907 observed a substance in horse serum which they called anaphylactine. They think that its action accounted for the sudden death of guinea pigs sensitized to horse serum. While anaphylactine has not been found in the blood serum of man, later investigations may show that the phenomena of serum disease in man corresponds to anaphylaxis in guinea pigs.

Roseman and Anderson think that the essential lesion of serum anaphylaxis is located in the respiratory centers. Several cases of sudden death following the injection of anti-

toxin into asthmatics have been reported. Knowledge of the fact that injection of horse serum into asthmatics may be attended with danger should be considered in the use of anti-toxin. Fortunately the percentage of persons in whom serum anaphylaxis occurs is so small that it is far outweighed by the beneficial results of injections of specific immune sera in the prevention and cure of certain diseases. It is to be observed, however, that the use of bacterins and sera are not without danger and they should not be administered without positive indications. The same observation may be made regarding many of the drugs in common use and bacterins and sera should be administered with the same knowledge and discrimination as are the other remedial agents of our pharmacopoeia.

In conclusion we feel warranted in drawing the following inferences as representing the present thought on this subject.

First, the cells of the body tissue are subject to the same chemical laws that govern other substances and their differing powers of forming combinations are dependent on their functions in the animal economy.

Second, that the body fluids contain certain substances, the product of cell activity, for the defense of the body and that the presence of these substances in the body in relative quantity and in an uncombined state determines the susceptibility of the body to infection.

Third, that bacterin therapy stimulates this cell activity against its particular infection and is useful for prophylaxis and for the treatment of subacute and chronic infections.

Fourth, that immune sera contains prepared substances that neutralize the toxin or destroy the bacteria or do both and are useful for prophylaxis and for the treatment of acute infections.

Fifth, that the opsonic index together with the clinical symptoms should be our guide in the administration of bacterins or sera.

DISCUSSION

C. G. Daugherty, Paris: With reference to the newer method of treatment of diseases by hypodermatic medication, I am sorry that all of the papers in the symposium were not presented.

Some years ago during a visit which Dr. C. A. L. Reed made to Italy, his attention was called to the fact that a large number of diseases could be treated by means of various medications or medicine given by the hypodermatic method. My own personal experience has been limited to iron and arsenic, the citrate of iron and the arsenite of soda, cacodylate of soda, bichloride of mercury, and gray oil in one of the newer forms.

I wish to ask Dr. Pope, who has so kindly filled the requirements of the program, in giving the treatment of disease by means of iron and

arsenic, atoxyl, and so forth, if in his experience he has had nausea following the administration of iron and arsenic. At first, we thought it was the psychic effect, but almost all of the patients have had some sensation of stimulation or of nausea if they did not lie down, and in some cases it resulted in losing a meal, and that is just the time when the meal is not to be lost. My experience has been that the results from the use of iron and arsenic, or of iron alone, have been most gratifying in cases of severe anemia or the type of chlorosis, and in gastric ulcers in which we have severe anemia and that peculiar condition of the stomach accompanied by hemorrhage, known as gastrotaxis the iron making up one per cent, hemoglobin per day, with iron on alternate days one half per cent. The results were gratifying. As Dr. Pope has pointed out, when we attempt to treat anemic patients by means of the administration of iron by the stomach, their digestion was severely taxed to take care of the iron. These preparations seem to stimulate the hematopoietic organs in cases of other diseases, such as tuberculosis, etc.

I had a case which I suspected was tuberculosis. The patient had a fistula in ano and various other conditions. Nutrition was very much impaired, but I found I could not build that patient up in any other way than by hypodermatic medication of iron and arsenic.

Dr. Pope alluded to atoxyl and condemned its use, speaking of its administration in large doses the same as in cases of syphilis and sleeping-sickness. The dosage is so small for pernicious anemia that you will be gratified to know that according to Allen Starr, seventy-five per cent. of the cases are curable by it, and if you come across some cases of pernicious anaemia in which you have almost the symptoms of locomotor ataxia, with loss of the patellar tendon reflexes and cord symptoms, or in a case of multiple neuritis in which you have the toxic effect producing even pernicious anaemia, it is gratifying to think we have a remedy which may cure seventy-five per cent. of the cases.

With regard to the administration of mercury hypodermatically in the severe cases of syphilis—I do not refer to the cases in which results can be obtained from the use of salvarsan, but those in which we have given "606" and have cerebral luetic symptoms—the bichloride, in 1-4 grain doses, bi-weekly, 10-15 doses, gives us the quickest results in relieving the cerebral symptoms. Later on, we can follow it by the administration of mercury, and for that purpose from the use of Heidsieck's method of gray oil mixture—mercury, dental bi-distilled, unsterilized English lanolin, camphoric acid, and beechwood creosote—my results have been gratifying in the treatment of these cases, in addition to salvarsan by the intravenous method, and I commend to you an article by Dr. Eugene Carson Hay, of Hot Springs, Arkansas, in which he reviews the whole

question of mercurial administration. The results obtained are so gratifying that we certainly have at our command a valuable means of treating cases where we do not wish to use salvarsan, or when we wish to use it in addition to other remedies. The number of cases of locomotor ataxia and of late forms of luetic infection seem to be so common that I do not believe we can afford to treat any case of luës without resorting to the hypodermatic administration of mercury. Again, there are so many cases of so-called malignant disease, such as epithelioma, that yield to the hypodermatic administration of mercury, that I commend this article of Dr. Hay to you, which can be easily had.

With regard to the other forms of hypodermatic administration of medicines, the salicylate of soda is being given, and an article by Dr. Alexander Lambert in a recent issue of the Journal of the American Medical Association takes that up in a way that will cover the symposium to our satisfaction.

With regard to bacterins, I wish to ask those who have been investigating them whether in immunizing children they give the full dose of five hundred millions for the first day and a billion in ten days, and a billion ten days after that. It would seem to me from the manner in which they administer the bacterins, to avoid a negative phase, we should divide the dose in half for children. In a recent epidemic of typhoid fever in my native city, Paris, the infection having been caused by drinking spring water, several children to whom I administered a dose of five hundred millions seemed to have had a pronounced negative phase, which, however, produced no bad results and has resulted in immunizing all to whom I gave the three period treatment.

Virgil E. Simpson, Louisville: That iron during the prolonged course of administration will frequently result in deranging the gastro-intestinal functions is a well known fact; that this result is often brought about because of improper dosage seems not so well appreciated by members of the medical profession.

I recall very vividly that during my course in medical school I was afflicted with varioloid. Being a medical student I was promptly sent to the eruptive hospital, and during the progress of the varioloid I developed facial erysipelas. I was isolated still further in what is known as the yellow fever ward, and the man in charge of the institution on his first visit, after the erysipelatous development, gave instructions to the attendant to have administered to me tincture of chlorid of iron in teaspoonful doses every two hours! Suffice to say, within a short time after this dosage was begun my stomach went into a state of rebellion, and if the iron had been of real service in controlling that attack of erysipelas, which I question, the doctor would have defeated the object he had in mind by putting the stomach in such a condition that it was impossible for me to

further absorb any of the iron. When we remember that in health when the physiological processes are being performed undisturbed, that there is less than one quarter of one grain of iron eliminated from the human body in twenty-four hours, we can readily appreciate it is preposterous to administer such large and heroic doses of iron as we sometimes see given by physicians.

If more iron be given than is necessary to maintain the iron equilibrium much the greater part of the excess is eliminated by the intestinal canal in the form of sulphides and tannates; a small part of the excess may be absorbed and even stored up in the liver and bone marrow but is eventually eliminated by the caecum and colon chiefly. It is quite true that in anemias there is an iron hunger and when given as a drug more will be absorbed until the normal equilibrium is established, but it is scarcely reasonable to assume that such large quantities can be cared for.

There has long been a discussion as to just how inorganic iron produces the effects that, clinically, we know result from its administration. One school, headed by Bunge, contended that food-iron, which is organic iron, is so combined that it is not easily dissociated by the sulphides in the bowel, hence almost all of it is absorbed; that in anemias, eg. chlorosis, large amounts of sulphides are found in the intestine and more, or all, of the food-iron is converted into ferric sulphid and absorption made impossible; that inorganic iron when given in these conditions, forms sulphids with substances in the bowel thus satisfying the chemical attractions and leaving the food-iron free to be absorbed. In other words, inorganic iron is never absorbed by the intestinal epithelium. The other school has by modern pharmacological methods, established these facts which convert Bunge's theory; that if inorganic iron merely acted by combining with the H_2S in the bowel, certain other drugs would be just as effective in anemias as iron; that sulphid of iron may be given as a therapeutic agent and improvement follow; finally, that iron given hypodermatically is curative in these conditions just as certainly as if given per os. In other words, it is a fact that iron in any form is absorbed, and, if properly given either by mouth or hypodermatically, will produce clinical results whenever iron is indicated. When given per os all forms of iron are converted into the chloride in the stomach, pass into the intestine to be changed into albuminates and as such absorbed. After absorption iron undoubtedly undergoes further syntheses in the liver, spleen and other organs and tissues.

I would urge in the administration of the iron preparations, whether by mouth or hypodermatically, that there go along with that administration the systematic examination of the blood of the patient. It is a procedure that is easily carried out. Any doctor can procure, if nothing else, Colquist's hemoglobin scale, and with ap-

proximate accuracy in a few seconds can determine the hemoglobin percentage changes in his patient. Those who are supplied with microscopes and possess the technic to make an estimation of the red and white blood cells and the relative proportions of the varieties of the latter, will not be content with the mere hemoglobin estimate infinitely better than no examination though it is.

The administration of iron, as I alluded to in the beginning, I believe, defeats the very purpose we seek so frequently when administering it by the mouth because of improper dosage. When we administer it hypodermatically we are more careful about the total amount of iron injected. We secure, in addition to this, a more complete observation and control of the patient while coming to the office for the hypodermatic administration. If we were to write a prescription for iron to be taken per os, we would probably not see the patient before two or three weeks have elapsed, and we are unable during this interval to control with any degree of nicety the total amount of intake of iron at any particular time. If these patients are being administered iron by the hypodermatic method, we then have them under immediate observation, and it is much less difficult to control the patient with reference to other suggestions we would like to make as well as observe the immediate effect of the drug we are giving.

B. J. O'Connor, Louisville: There are a few points in connection with the subject of serum and vaccines which need to be emphasized. The essayist did not emphasize the importance of making a clear distinction between a serum and a vaccine. Not infrequently I have heard physicians speak of a serum when they meant a vaccine or a bacterin. A very clear distinction should be made between the two. The difference in the administration of the two is so great that a man commits a grave blunder when he uses the terms serum and vaccine synonymously or interchangeably, or when he prescribes one for the other. In the administration of a vaccine there must be a period for a reaction between the doses, whereas in the case of a serum you can give it repeatedly.

In connection with serum sickness or anaphylaxis brought out by Dr. von Pirquet, serum sickness occurs a great many times after the primary injection of the antitoxin, but the more dangerous point is the secondary injection that is given after an interval of two weeks or up to six months after a primary injection. For that reason, all of the modern observers agree that the use of antitoxin as a prophylactic in diphtheria is not indicated; that it is dangerous to use it, because if you do, and must use it in a case of diphtheria occurring shortly afterwards in the same patient, you are likely to produce a serum sickness which may prove fatal. The mortality

from the secondary use of serum sickness is not small.

Another point is in regard to the use of serum for tetanus. While the doctor mentioned Fourth of July injuries from blank cartridges, etc., it is well to use the anti-tetanic serum as a prophylactic measure in street injuries, where the street dirt is ground into the wounds, and in punctured wounds about stables, and if you would prevent tetanus from developing in these cases you should use the tetanus antitoxin at the time of the injury. You should not wait for symptoms.

The Flexner serum is unquestionably one of the greatest advances in the treatment of cerebrospinal meningitis we have. The doctor did not emphasize the importance of the early use of Flexner's serum. Of course, the Flexner serum would have no influence in streptococcal meningitis or tubercular meningitis, but when we are dealing with meningo-coccal meningitis, if the serum is used early enough, and in accordance with the technique Flexner has given, the results are certain to be good.

One word about the use of bacterins. Bacterins must be handled by one who is more or less experienced.

It is not necessary to rely upon the opsonic index as a guide to vaccine therapy, but close observation of the temperature, of the increase in the discharge, etc., is necessary. Autogenous vaccines are unquestionably a great deal more reliable than the stock vaccines. You cannot tell when you have a case of acne whether you are dealing with a plain staphylococcus or pure acne infection or with the acne bacillus and staphylococcus. You may have two or three types of staphylococci there, and the autogenous vaccines are more reliable. The acne bacillus is an anaerobic organism. A great many mistakes are made in giving the autogenous vaccines too early. Small doses can be given early, while larger doses require a longer interval.

Great use may be made of typhoid vaccines, not only as a prophylactic measure, but also as therapeutic agents. If you use small doses of typhoid vaccine in the early stages of typhoid fever, you will reduce the mortality one-half. Many observers have demonstrated this beyond the shadow of a doubt.

I had one case in which Dr. South made several Widal examinations, but in the early stages the Widal was negative. After the administration of the first dose of typhoid vaccine there was no reaction. The second dose acted almost specifically; the temperature went down immediately, every symptom cleared up within four days, and the patient went on to an uninterrupted convalescence. Another patient recently treated with typhoid vaccines reacted promptly, the febrile symptoms completely disappearing within a week after the first injection. In this instance three injections were given, the first of 50,000,000 bacilli,

three days later a second of 75,000,000, and several days later one of 125,000,000.

Vernon Blythe, Paducah: We have been so flooded with literature upon serum and bacterins that it is a difficult proposition sometimes for doctors in small towns and small cities to really get the truth of just what the meaning of all this is.

The real scientific observation of sera to a great extent began with the number of infections that occurred at Chickamauga Park during the Spanish-American War, when the army was in camp there, and there was a terrible mortality from typhoid fever. With most of the literature we have had coming from the firms that have prepared these vaccines, such as Mulford & Company, Parke Davis & Co., and others, it has been difficult to get at really careful and concise observations along this line; but there are a few things I have noticed in my use and experience with them. One is the use of pneumostaphylococcal bacterins. I have observed that in the study of pneumonia, where there is great difficulty in overcoming the conditions that follow, where there is a remaining pneumococcal condition in the lungs, where there is the formation of staphylococcal infection and streptococcal infection, that injections of small doses of the mixed bacterins have been very efficient. But there is one thing I have also noted, namely, that you have to handle these bacterins with great care, otherwise you will get a negative reaction. If this is not done, you will do more harm than good. I have had some patients who have had considerable diarrhea after the use of these bacterins. I usually start with twenty-five million, thirty-seven and a half million, fifty million, working up to seventy-five million or to one hundred and one hundred and fifty million. I have rarely found it necessary to run over fifty million in the use of the mixed bacterin. If you do not give them with gradual steps the symptoms become worse. I have had patients with severe diarrhoea resulting from their administration. After close observation I have not found that the diarrhoea was due to dieting or to the food these patients took; that it was due to a reaction from the serum, or rather the bacterins that were administered.

With reference to the use of bacterins in the treatment of gonorrhoea, I think they are absolutely useless in the first stage. It is only in the old cases that we get results, but I do think in arthritis, or even if there is no arthritis, if there is long continued case of gleet, that they have a marked and wonderful influence. I think that these facts should be brought to the attention of doctors in small towns just as well as to the men who live in the large centers of population. It is remarkable that we have at hand in the course of ten or fifteen years a vehicle by which thousands of lives can be saved, and yet the practical value of which is so little appreciated

and the sensible handling of these bacterins so little understood.

With reference to vaccines in connection with typhoid fever, as we all know, according to recent experience in the army of the United States while in camp upon the Rio Grande, these vaccines have proven to be a vehicle of great importance in protecting men who were exposed to typhoid infection. With reference to the use of tuberculin, with the little experience that I have had with it, it seems to be very efficient and striking in its results, but it should be handled with the greatest care and with the most astute judgment when we use it in tuberculous subjects.

L. H. South, Bowling Green: I would like to say a few words with reference to the treatment of hydrophobia. When a dog has bitten a person on an exposed surface, like the face or hand, the treatment should be begun early, and I am pleased to announce that the State Board of Health has made arrangements with the Hygienic laboratory at Washington to supply us with the cord of this treatment, so that we can give it free to patients; but they must come to the laboratory. That is one of the requirements of the government. However, if any family physician wishes to give this treatment, this virus can be secured from the various laboratories, like Parke, Davis & Co., Alexander & Co., at the moderate cost of fifty dollars. The laboratory will be glad at any time to make an analysis of a dog's head and treat these cases. Positive results have been secured in a great many of them. It requires twenty-five injections, and each patient has to be at the laboratory from twenty-one to twenty-five days.

Curran Pope, Louisville: I want to answer Dr. Daugherty's question by saying the average dose given hypodermatically is from five centimeters to one decigram. In giving his remedies, if he will draw the entire contents of the ampule into the barrel of the hypodermatic syringe, and then administer the first dose, as I suggested, one-third of the dose the first time, he will get one-third of a centigram, and the next time you will get 0.30, and the next time .5, and by the fourth or fifth dose he will get the full dosage of the larger ampule. That has been the way in which I have started, and I have done that not only with the iron, but with the arsenic. My experience has been that patients are more susceptible to a sudden introduction of the larger dosage of arsenic than they are to the larger dosage of iron. I have never had any serious attacks of nausea in that way, nor have I had any unpleasant sequelae following the administration, and I attribute this to the fact that I adopt this principle in the medication of nearly all patients that come before me. I realize this fact, no matter how well you or I may know disease and may intelligently comprehend and interpret the clinical fact of that disease before us, namely, the patient, yet there is always a phase we cannot

know and it is impossible to know, and that is, how that individual is going to react to the medication. That patient at the start, speaking in the nature of mathematics, is the unknown quantity X, so that our administration of the iron should be a small dose at the start if the iron plus X, the unknown quantity, in the clinical case demands a very small dose at the start. I do that with every case that comes before me. If I had to take four or five days longer to build up that case to a certain dosage, I have done better than running the risk of taking F. E. or A and giving him the maximum dose. It is simple to my mind. It is a matter of little mixing. Sir Joshua Reynolds was once asked how he was able to paint with such wonderfully fresh paints, and whether there was any particular thing he used in mixing the ingredients. He replied that all he had to do was to take his pigments and mix a little brains with them. (Laughter). It is a good hard, rough, commonsense proposition to take the unknown quantity X in a patient and add a little cerebral tissue to that and start with a small dose and build up, and that is the reason I believe I have had no ill effects from the hypodermatic administration of medicine.

Another point with regard to the use of vaccines. I have had a very limited use of these vaccines, and from what I have seen of them and with other physicians, I have been led to the conclusion regarding one form of bacteria that I think is interesting enough to know, and that is this, that the ordinary stock vaccines are very good in average conditions until we come to the colon bacillus. My observation has been that there is absolutely no stock vaccine that is so unreliable from the standpoint of the clinician as the colon bacillus vaccine. It is in these cases I think we shoot in the dark. If we are lucky enough to get in the bacterin the particular colon germ causing the trouble, all right. If you have missed the target, you are all wrong. For that reason, I have ceased using them in such cases as come before me, and, gentlemen, I will say, those of you who have had to deal, for example, with a parietic bladder of the ataxic, can realize what it means to have a colon vaccine at hand and the immense amount of good that will come from it. It is simple if you can have an autogenous vaccine made and use it, but I find it is a waste of time to be shooting around with one preparation and then another as we have been doing in the past. You will find some of these things very effective.

C. E. Purcell, Paducah: There should be definite and positive indications for the administration of the serums and bacterins and all must have recourse to the laboratory and the cooperation of the bacteriologist if we hope and expect to meet these indications scientifically. I have had very little personal experience with the bacterins, and therefore I shall limit these remarks to the serums. Ever since it has been

known that we can produce, artificially, in animals, the condition of anaphylaxis, by the hypodermic introduction of certain substances and that this condition exists in man, in some cases physiologically, and that a prophylactic dose of serum might therefore sensitize a patient and render a therapeutic dose dangerous or even fatal, I have always believed doses of serums unwise and the risk unwarranted. Having the utmost faith in the antidiphtheritic serum and knowing that every child or person exposed to diphtheria will not contract it, I prefer to wait till conditions develop sufficiently to warrant the use of antitoxin. You will note I use the term conditions where ordinarily we would expect to use "symptoms." I do not believe antitoxin should be given on phenomena alone unless they are very positive and the physician far removed from a competent bacteriologist. I feel certain in my own mind, that we should not be too hasty in giving antitoxin in cities where skilled assistance from the laboratory can be had. Many sore throats with simple ulcers and streptococcal membranes are diagnosed diphtheria and treated with antitoxin. I doubt very much if there is a clinician who does throat work exclusively, who sees a large number of cases and who on objective symptoms alone can differentiate positively in every instance between a streptococcal membrane and a diphtheritic membrane.

I am certain now, since depending more on laboratory tests that I have given antitoxin in ulcerative tonsillitis and streptococcal membranes. Fortunately, however, I have had no bad results from such administration, though I have talked with men who would not under any conditions give antitoxin because of deaths they had witnessed following immediately the injection of the serum. If we will have every membrane formation from the throat and larynx subjected to laboratory tests we shall soon find out how often we are mistaken in our clinical diagnosis. A membranous formation in the larynx is usually diphtheritic; a simple laryngitis with a husky voice requires no serum. We should not be too hasty in giving the serums.

Aside from the certainty of each diagnosis and the consequent employment of positive therapies, there is the patient's side and the family's interest to consider. From the patient's standpoint it is far better to secure a bacteriological report, and not call the case a suspicious one and advise antitoxin to be on the safe side, than to buy serum at present prices and be subjected to the disadvantages and losses of quarantine and fumigation and the necessary expense of reopening the house, when no diphtheritic bacilli are found.

Try immersion in hot water baths for indolent bedsores and large, slowly healing burns. You will be surprised how grateful such treatment is and how often it is highly advantageous.

IMPORTANCE OF EARLY DIAGNOSIS IN MALIGNANT DISEASE.*

By WILLIAM H. WATSEN, Louisville.

I did not expect to be called upon to discuss this question, and I will have to do so orally as I have nothing written.

Any surgeon who has had an extended experience in operating for malignant disease will have appreciated the great importance of early diagnosis. We make a reasonably early diagnosis in cancer situated in certain parts of the body, while in cancer situated in other parts we make a very late diagnosis—too late in many instances to do any good by a surgical operation. Let us take cancer of the uterus in which I have had a very broad experience extending over thirty years. In looking back over the numerous cases I have operated upon, and the many others upon whom I have not operated, I should say that from eighty to ninety per cent. have been referred to me, or have consulted me of their own accord, when it was too late for any hope for a permanent cure by operative procedure. The only hope from operation at that late period is to afford temporary relief, and the prolongation of life, sometimes from six months to one year. This delay is due to two or three reasons. In the first place, our women have not been taught the significance of the symptoms of cancer of the uterus. This is mainly due to the medical profession, and I must say that it is very largely ascribable to the failure of our teachers in medical colleges. We have not in the past emphasized sufficiently the importance of early diagnosis in uterine cancer. We have not taught all the methods and means of making early diagnosis. I fear we have talked too much to our students about the operative procedures at the expense of the important question of diagnosis. We should not only teach in cancer of the uterus but in many other diseases careful diagnosis, and let the surgical procedure come later, even after the graduation of the student, and when he can gain experience in a hospital.

In Germany they are doing much better than we are and the percentage of late cases, the inoperable cases of uterine cancer, is not fifty per cent. of the number or percentage we have in this country. They have educated their physicians in this particular better than we have, and they have educated their women. If we would educate ourselves carefully as to the means of diagnosis of cancer of the uterus, and then if we would interest some of our strong-minded women who are able to lecture to large audiences of their lady friends,

*Read before the Kentucky State Medical Association, Paducah.

very soon nearly all intelligent women would learn the symptoms that would indicate the necessity of being examined. Women should be taught that after the age of forty the ratio of cancer cases increases rapidly. They should be taught the importance of irregular hemorrhages between the menstrual flow, continuing for any considerable time, or the importance of a hemorrhage continuing after coitus, with often a leucorrheal discharge, watery in character, sometimes a little offensive; or the importance of being examined when they have passed the change of life and have hemorrhages with an offensive discharge. And these symptoms, without enumerating others, are sufficient to indicate the necessity for an examination.

The physician should be trained how to make an examination. If the cancer has advanced very far a digital examination will often tell an experienced physician or surgeon the nature of the disease; then he may examine with the speculum the cervix, and if he is not still satisfied he may make a section from the cervix and submit it to a trained pathologist for examination; or if there is no trouble in the vaginal cervix he may have a thorough curettage made, removing tissue from every part of the endometrium, because if this is not done he may miss the very point where the cancer is situated. The disease may be very small or circumscribed. It may involve but little of the endometrium. The material removed can be preserved in a 10 per cent. formalin solution and submitted to the pathologist for examination. When I say a pathologist, I mean one who is thoroughly trained in making these examinations. All this can be done because there is always in this country not far from any physician a well trained pathologist to whom the specimen can be sent preserved in formalin solution.

It is a sad commentary upon the intelligence of womanhood that when we recognize mammary cancer most of the cases in this country have gone too far for any hope of permanent relief before a physician or surgeon is consulted. While the percentage is much lower than in cancer of the uterus, it is five times as high as it ought to be if women were taught to consult a physician whenever they find a lump in the breast. I have known women, however, to consult no physician for probably a year or a year and a half after they found a large lump in the breast. By this time the disease has gone too far for surgery to offer much permanent relief. Again, we see women with a lump in the breast as large as an average orange accidentally discovered, showing that they do not study the condition of their breasts carefully.

We now come to cancer of the gastro-in-

testinal tract which in a surgical sense is attracting the attention of surgeons everywhere. Nearly all cases of cancer of the stomach are operated upon when it is too late to offer much hope, the mortality being high and the return of the disease being rapid. This is because we have been waiting too long for stomach analyses and test meals to diagnose the case. While stomach analyses should not be in any sense condemned but encouraged, if we depend solely upon stomach analyses to make a diagnosis of cancer of the stomach—I mean an operable diagnosis—then the diagnosis is of no account because the patient's disease will be too far advanced to derive any benefit from operation. If we expect to get good results from surgical interference in cancer of the stomach, we must operate in what we do now consider the pre-cancerous stage or in the early stage of the cancer. When I make that statement, you may say that I am asking you to operate when there is no necessity for it, but, gentlemen, every case of cancer, with the fewest exceptions, has a history of pathology in the stomach that requires an operation, let it be cancer, or let it be chronic ulcer of the stomach or of the duodenum. You should relieve that pathology, and the operation then is a comparatively simple one. If you are suspicious when you enter the cavity from the microscopical appearance that the disease is malignant, always do a thorough resection of the stomach, go well out in the healthy tissues and remove all of the diseased structure, and in this way you will get reasonably good results.

In from sixty to seventy per cent. or may finally be ninety per cent. of the cases of cancer of the stomach the disease develops in the site of the scar of an old ulcer. Moynihan and Mayo and others, who have done so much of this work, find from sixty to seventy per cent. of the patients have a recurrence after the disease has been removed. Fortunately, we do not often have primary cancer in the duodenum; but if the duodenum is the organ that is involved in calloused ulcer we make a gastro-jejunostomy, and probably also a resection of the scar in the duodenum.

We probably seldom or never have cancer of any part of the small intestine, (fourteen cases in the *Rochester Clinic*) the disease being nearly always confined to the stomach and large bowel. In the large bowel we find cancer most frequently in the sigmoid flexure. We find it next in frequency in the ileo-colic juncture and the ascending colon, but not so often in the transverse colon. According to Mayo's statistics, published in the papers from Rochester, recently issued, the last volume, in thirty-two cases the disease occurred in the sigmoid flexure and descending colon; the ileo-cecal

juncture and ascending colon in twenty-eight and in the transverse colon in nine.

What should we do with reference to diagnosing these cases of cancer of the large bowel? While the diagnosis cannot always be made in the early stages, there are, as a rule, sufficient symptoms to indicate the advisability of making a laparotomy, and then you can make your diagnosis by the sense of touch and the sense of sight.

What has been the result of operative procedures in the past upon resection of the bowel? They have not been good because of delay, but we are doing much better now, and if we would operate more promptly, nearly every one of them would recover from the primary operation and many of them would remain permanently well. If you make a timely operation, there is no part of the human body in which you could do more successful work, probably the most successful, and the work is not difficult, and the bad symptoms following operation are surprisingly few. In resecting the large bowel for cancer, where I have made a lateral anastomosis, there has been practically no more distension of the abdomen following the operation than is usual after an ordinary laparotomy. The gas and fecal matter pass freely through the anastomotic opening; but if we delay operating on these cases until the adjacent structures are involved and the patient is much emaciated, then we will have bad results just as we would in delayed cancer in any other part of the body.

Let me impress upon you the great importance in any form of cancer in any part of the body, whether it be the uterus or abdominal structures, etc., of early operation, and insist upon teaching the people the necessity of consulting a physician when symptoms referable to these organs or structures are manifested.

IMPORTANCE OF EARLY DIAGNOSIS IN MALIGNANCY.*

By A. L. THOMPSON, Madisonville.

Of the many diseases with which the human race is afflicted there is not one whose direct cause is more mysterious, whose onset, as a rule, more insidious and whose prognosis, in neglected cases, more grave than that of malignancy. It might be compared to a thief, who does his work under the cover of darkness. If perchance he gains entrance to the house, while his unsuspecting victim yet sleeps, and arranges all details of his robbery without arousing him, he is master of the situation. Just so is the thief, cancer, who seeks

the life of its victim, master of the situation if the individual is not awakened to the significance of the early signs of the disease, that the proper steps might be taken to have it completely eradicated.

There is no other disease which is productive of more loathsomeness, mental anguish, hopelessness and misery than that of cancer. Who can imagine a more pathetic sight than that of a poor woman, in the very clutches of death as a result of cancer of the uterus, who had perhaps long since consulted her physician for relief from unnatural uterine hemorrhages, and who, on account of the profound ignorance or unjustified carelessness of the physician, was assured that her condition was nothing more than the "change of life," and turned away with some simple prescription, to battle with this monster, in darkness, until the golden opportunity for recovery slips by; then, as a last resort, she appeals to the surgeon for relief, only to be informed that her condition is one of malignancy and so far advanced that nothing short of death can relieve her.

A review of the literature reveals the fact that, while there has been a most gratifying decrease in the death rate from the infectious diseases, there has been a marked increase in the mortality from malignant disease, some authorities estimating it at more than four times greater than it was fifty years ago. Such a great increase, however, might be due, to some extent, to the perfected methods of diagnosis, enabling physicians to recognize cancer where formerly death would have been attributed to some other cause. But could it not be said with equal propriety that many deaths formerly attributed to cancer would now be recognized as other diseases? Be that as it may, despite the fact that clinicians are putting forth great efforts in perfecting the means of diagnosis, and surgeons are widening the field of operative interference and improving the technique of operations, statistics seem to indicate a continued high mortality rate from this disease.

Cancer is on the increase, and it frequently occurs under the so-called cancer period. Several cases are on record which were observed in individuals under ten years of age. It is a world-wide disease and is one of the greatest problems with which we are confronted to-day. The death rate from this disease is second to none, excepting tuberculosis, and it is rapidly approaching this in numbers. In England it is estimated that of those individuals over thirty-five years of age, one out of every eleven men and one out of every eight women die of cancer. In Germany, in 1879, there were 6,330 deaths from cancer, in hospitals; in 1889 the number had increased to 24,000, and now it is estimated at 40,000 a

*read before the Kentucky State Medical Association, Paducah.

year. In New Jersey, in 1900, there were more deaths from cancer than from tuberculosis, and in New York State, in 1907, there were more than half as many deaths from cancer as there were from tuberculosis. It is said that there are \$25,000 deaths a year, from cancer, in Japan, while in this country, with 80,000 cases constantly in progress, there are 40,000 deaths a year.

The problem of tuberculosis has been solved, and to-day through the united efforts of the profession and laity the disease is being gradually controlled and the death rate is yearly being lessened. This is also true of other diseases. Even the hook-worm has succeeded in creating great consternation among, and exciting the enmity of, the public, and, as a result thereof, the profession, philanthropist and laity have put their heads together and measures have been adopted whereby this little animal is being eradicated. Thousands and thousands of cases are being treated and cured each year, with the result that individuals affected with this disease are translated from a state of mental and physical depression, slothfulness and uselessness to one of activity, and are thereby made happy and useful citizens. Not so with cancer, a disease entailing so much torture to the patients and such expense to those to whom they must look for support. While there are thousands of cases constantly under treatment, the permanent cures can not be numbered by the thousands, and this is due to the fact that many thousands of cases come to the surgeon too late, because of the inability of physicians to make early diagnosis. Pathology teaches us that cancer is a limited local disease in its beginning and that it can be cured if the entire area involved is removed. It is obvious, then, that an early diagnosis is an essential fundamental in the reduction of the mortality rate in this disease.

The cancer question needs our interest fully as much as does tuberculosis or any other malady with which the human race is afflicted; and until the profession is fully awakened, and succeeds in awakening the public, to the gravity of the situation, we may justly expect a continued high death rate in this disease. Each and every physician should consider it his profound duty, and indeed it is, to endeavor to impress on the mind of every patient, who consults him as a result of some obscure condition, the possibility of malignancy and the great importance of an early diagnosis of this condition, inasmuch as therein lies the only hope of a cure. If the proper interest be manifested in these patients, and they are impressed with the fact that we have their welfare at heart, we shall experience little difficulty in gaining their co-operation in an endeavor to determine the nature of the

existing condition; and in every suspicious case that comes under the observation of a physician, he has not performed his full duty until every known means of diagnosis at his command has been utilized. There is much that can be done that is often left undone. For instance, if the case be one of some disturbance of the function of the stomach, much valuable information can be gained by an examination of the contents, and this should be done in every case presenting marked or persistent symptoms, especially in individuals past the age of thirty-five. Yet how many physicians do we find who do this work? I am convinced that the number is relatively small.

We should be liberal in disseminating what knowledge we have of cancer, to the public, so far as early signs are concerned. Every woman should be instructed to seek the advice of a competent physician immediately upon the discovery of a mass or an unusual change or sensation in the breast, and the people at large should be impressed with the importance of an early inspection, by a physician, of any small ulcer, area of hardness in the lips or tongue, or any tumor formation, no matter how small or insignificant, and all such abnormalities should be considered malignant unless it can be positively verified that they are not. Such a statement might be tinged with pessimism, but an optimism that is productive of so much torture and so many premature deaths should not be entertained. Accumulated evidence has shown that it is dangerous to trifle with these apparently harmless tumors. I believe that it would be a wise thing for physicians to advise the removal of any and all tumors, be they nothing more than simple warts, for they can be of no possible benefit to an individual, they can be easily and painlessly removed, and that without danger, if they are external and small tumors, and there is always a possibility of a resulting malignancy if they are neglected. It should also be borne in mind that trauma is sometimes productive of sarcoma. Those cases accompanied by fracture, dislocation, great laceration, or injury to important vessels or nerves demand constant attention and are frequently inspected by the medical attendant; but in those cases with an absence of laceration and with little swelling, no more attention is given than the comfort of the patients demand, and in just such cases sarcoma sometimes develops. This, of course, is relatively rare, but the fact that it does occur should be a strong incentive to physicians to be on the alert in these cases, and individuals receiving such injuries should be informed of this fact and admonished to return for examination at the very first appearance of

any unusual pain or swelling in the region of the injury.

As a rule, it is a comparatively easy matter to make an early diagnosis of malignancy in accessible organs, if one will take the pains to send a specimen of the diseased tissue to a skilled pathologist for examination. In inaccessible organs we have a different proposition with which to deal, an early diagnosis often, if not always, being impossible. But a realization of this fact does not justify us in a failure to perform our full duty; but on the other hand it should make us more determined in our efforts, and more alert and painstaking in our examinations. We should watch for new and early signs of the disease in all suspicious and obscure cases and make a careful note of our observations. Who could not readily make a diagnosis of carcinoma of the stomach after it has proceeded to such a degree as to produce the so-called coffee-ground vomitus, cachexia, palpable mass in the epigastric region, etc? But what has been accomplished when such a diagnosis is made? Better for the patient that he remain in ignorance as to the nature of his illness, as a cure is impossible after this stage of the disease is reached. It has been wisely said that the easier the diagnosis in this disease, as a rule, the greater the prognosis.

Humanity is looking to the medical profession for a solution of this great problem. It is a great debt that we owe, and each individual that dies of cancer is but a statement sent us, by the public, of what we are due it. Hence, there should be united and untiring efforts on the part of the general practitioner the surgeon, the pathologist, bacteriologist and biochemist in an endeavor to arrive at an early solution of the problem; and in the meantime such measures as will arouse the public to a proper conception and appreciation of the situation, and encourage philanthropists to contribute more liberally to this cause, should be instituted. The public stands ready and eager to lend a helping hand in dealing with such problems, as has been demonstrated in the great fights against tuberculosis, yellow fever, hook-worm disease, etc. But in this matter, as in all other matters pertaining to public health, the medical profession must take the initiative, and must disseminate at least a part of its knowledge to the public. No sane and conservative business man would consider for a moment the displaying of his goods before a circle of business men, only. The outcome of such a policy is obvious to any one. To make a success in the business world, one must put his goods before the public and impress the people with the fact that he has something worthy of their consideration. Just so it is with the medical profession to a certain extent, in

dealing with these great problems. If we are to succeed in combating cancer we must make it a public issue, and let it be known that it is a matter of vital importance to every one. The true cause of cancer might be discovered in the near future, but until a specific is discovered for it, we are to remain in a more or less helpless situation, so far as a cure is concerned. The only hope in view lies in early diagnoses, with early and complete removal of the diseased areas; and this can be enhanced materially by a wide-spread educational campaign along this line.

IMPORTANCE OF EARLY DIAGNOSIS OF INTESTINAL OBSTRUCTION.*

By P. C. LAYNE, Ashland.

It appears to the writer that the burden of this symposium has fallen upon shoulders far too feeble to support its onerous weight. There are several reasons for this belief: 1st. The very name of intestinal obstruction has long borne a sinister meaning; 2nd, an early diagnosis is often difficult, and 3rd, without an early diagnosis (and alas, too often with it!) the unfortunate sufferer has nothing left to do but say his prayers and wait patiently for the end. To be convinced that this last statement is painfully true, one has only to consult the statistical tables of those who possess authority to speak upon the subject. Treves estimates the percentage of recovery after operation in all forms of intestinal obstruction taken together at about 50 per cent. Taylor states in an excellent review of the subject that the present mortality following (but not caused by) the operation, for acute intestinal obstruction, is not far short of 60 per cent. In Curtis's tables of 247 cases where the cause of the obstruction was removed, the mortality was 62.7 per cent; while in 74 instances where this was not done the mortality was 86.4 per cent. Of 288 cases of ileus studied by Nannyn, recoveries by laparotomy on the first and second day amounted to 75 per cent; whereas on the third day only 35 to 40 per cent, could be saved. This last statement shows, therefore, the imperative need of early diagnosis in all cases of intestinal obstruction. "But how are we to make this early diagnosis?" I hear some one ask. There is only one answer to this query; viz., a thorough knowledge of the different varieties of intestinal obstruction, their signs and symptoms, and the ability to apply this knowledge at the bedside.

The late lamented, Prof. P. S. Conner was wont to express frequently before his class at the Medical College of Ohio this weighty aphorism: "Gentlemen, learn something of

*Read before the Kentucky State Medical Association, Paducah.

every thing, and *every thing* of something."

With this wise injunction before us, let us try to learn something, at least, from the pathology and symptoms of intestinal obstruction that will enable us to make an early diagnosis.

In doing this (I will ask pardon beforehand), it will be necessary to treat the subject in an elementary way that to most of you may appear commonplace.

The names intestinal obstruction, ileus, volvulus, iliac passion, intestinal occlusion, and intestinal strangulation have been long employed more or less confusedly, to denote a symptom complex characterized by abdominal pain, vomiting, arrest of the fecal current, and meteorismus. In the choice of terms Dieulafoy prefers that of intestinal occlusion as more applicable to all forms of intestinal obliteration, while most German and English writers adhere to ileus or intestinal obstruction. As the last two terms are perhaps the most generally used the writer will not depart from that usage. *Ileus*, then, may be defined as a term employed not to indicate a special pathological condition, but a group of symptoms among which four are more or less prominent; viz., (1) Abdominal pain, (2) vomiting of bile and fecal matter, (3) arrest of the fecal current, and (4) meteorismus. The presence of this symptom complex is always serious, as it indicates an obstruction to the fecal current which may quickly terminate the individual's life. *Ileus* has been classed as follows:

(1) Adynamic Ileus.

(2) Mechanical ileus, (a) from strangulation, (b) from obturation.

Either of these two latter varieties may be acute or chronic, an important division to be kept in mind.

Ileus is called adynamic when it results from failure of peristaltic action; mechanical, when it results from some closure of the intestinal lumen. Murphy would add a third variety; so-called dynamic ileus when there is excessive muscular power, as sometimes occurs in lead and tyrotoxic poisoning, etc.

The cause of adynamic ileus are many and will be stated as briefly as possible

(1) Central—Lesions of the brain and spinal cord.

(2) Reflex—Among the more common of the reflex causes may be mentioned, the strangulation of a piece of omentum in one of the hernial rings; renal or hepatic colic, the ligation of pedicles *en masse*; ovarian or testicular compression; blows upon the abdomen and operation upon hemorrhoids, etc.

(3) Inflammatory The most common cause is acute peritonitis—localized or diffused:

First of all local peritonitis such as sur-

rounds the appendix, gall bladder or Fallopian tube in its acute manifestations; in fact, localized peritonitis of any of the abdominal viscera. Diaphragmatic pleurisy and deep lobar pneumonia are not to be overlooked in the case of children. In the case of diffuse peritonitis, it is a common observation that it is often difficult or impossible to differentiate it from mechanical ileus.

MECHANICAL ILEUS.

In mechanical ileus the lumen of the bowel may be closed by pressure from without or by some obstacle within it; in the former case it is known as strangulation, and in the latter as obturation; but with this distinctive difference, that in strangulation not only is the lumen of the bowels compressed but likewise its mesentery and vessels to a dangerous extent.

The causes of strangulation ileus are manifold, and may arise from constrictions by bands or adhesions; Meckel's diverticulum, the appendix or the Fallopian tube may become wound around some hollow viscus and obstruct its lumen; a rent in the omentum, mesentery, broad ligament, suspensory ligament of the liver, or parietal peritoneum from defective development or traumatism may produce a like result, and the various forms of hernia both external and internal, intussusception and volvulus play a prominent role as causative factors.

Among the leading causes of obturation ileus may be mentioned foreign bodies such as have been swallowed accidentally or intentionally; biliary calculi, enteroliths, and fecal concretions. Carcinoma, most common in the colon and rectum is a frequent cause, while sarcoma and lymphosarcoma rarely produce obstruction. Tubercular, syphilitic, dysenteric and stercoral ulceration followed by stricture of the bowel are not infrequent causes. Compression of the lumen of the bowel by intra-abdominal growths, such as ovarian and uterine tumors; and chronic peritonitis, carcinomatous or tubercular, as well as chronic intussusception, help to swell this already formidable list. Last but not least is that rare form of obstruction known as the gastro-mesenteric ileus of Zade, due to occlusion of the duodenum by the superior mesenteric vessels.

Before entering upon the subject of symptoms and diagnosis it may make the interpretation of both clearer first to state three axiomatic principles that abundant observation and experimentation upon animals have fully demonstrated:

(1) In acute peritonitis the wall of the affected intestine is paralyzed, this portion becomes distended with gas and its mobility is limited.

(2) When a coil of intestine with its mes-

entery is strangulated there follows acute swelling of the affected portion. As the loop of intestine is mechanically fixed at the point of constriction it cannot move, and all peristaltic action is stopped by alterations in the innervation and circulation; there is a discharge of fluid from the strangulated part which within twelve hours may reach a considerable quantity in the peritoneal cavity. The bowel below the constricted portion is empty and collapsed, while that above is more or less distended according to the time of obstruction; in general it is true, that it gradually becomes filled with fluid and distended with gas.

(3) In obstruction of the intestine that portion below the obstacle is empty and collapsed, while that above it is very full; this distention decreases from the point of the obstruction toward the stomach.

As long as there is no peritonitis peristaltic action continues in the distended intestine, but is of varying intensity. If the obstruction is superimposed upon an existing stenosis due to a gradual narrowing of the intestinal lumen the muscular coat of the bowel above will have become hypertrophied and its peristaltic action exaggerated.

SYMPTOMS.

As a corollary to the above facts it may be stated, in general, that four cardinal symptoms of ileus are: (1) Abdominal pain, (2) vomiting, (3) arrest of the fecal current, and (4) meteorismus—symptoms that should at once direct the medical attendant to a careful scrutiny of his patient.

DIAGNOSIS.

It goes without saying that it behooves the physician or surgeon when called to a supposed case of ileus to make the diagnosis at the earliest possible moment, for every hour of delay in this respect only hastens the fatal end for the patient.

To the careful observer, in the majority of cases the diagnosis of ileus is apparent; the difficulty consists in the determination of the site and the cause of the ileus; but in most cases it is unnecessary to do more than determine whether the ileus is adynamic, or due to strangulation or obstruction.

In certain cases one or more of these causes may act in combination, in fact, it is not an uncommon thing to find this state of affairs existing, and it is in such instances that the most experienced diagnostician will be sorely baffled. In many cases a careful history will not only give us a clue, but make the diagnosis of the cause of the ileus. The next step should be a thorough examination of the patient. While attention is especially directed toward the intestines, the other organs

both within and without the abdomen should be carefully examined. The demonstrable changes to be expected in the intestine will be a modification of its form and its mobility. The examiner should next ask himself the question: Is peritonitis present? In most cases the answer to this question will not be difficult. If the abdomen is everywhere sensitive; if there is absolute constipation and the continuous vomiting of biliary or fecal matter; if the patient is restless and has drawn facies and hollow lack lustre eyes; if respiration is shallow and of the costal type, and there are moderate elevation or subnormal temperature with rapid compressible pulse; if there is dry red tongue, great thirst and scanty urinary secretion; if the abdomen is uniformly distended without visible or palpable intestinal coils, and if no peristaltic action can be heard the picture of diffuse peritonitis is typical. The absence of visible intestinal coils is significant; it indicates an extensive intestinal paralysis, such as accompanies acute diffuse peritonitis. Meteorism is as pronounced in the early stages of adynamic ileus, particularly the peritonitic type, as it is in the mechanical form. Borborygmus is always absent in adynamic ileus, while it is one of the most pronounced manifestations of the mechanical variety. The stethoscope will render valuable services in such cases. The temperature is of uncertain value in many cases of peritonitis, as it may be elevated, normal, or subnormal, although the rule is moderate elevation at the beginning.

While, therefore, in a doubtful case the presence of fever is suggestive of peritonitis its absence is no proof that peritonitis does not exist. The leucocyte count, the opsonic index, and the indican test have all been tried, and found wanting from a differential standpoint.

In strangulation ileus the acute onset, the sharp abdominal pain, the stercoraceous vomiting, the arrest of fecal current, the meteorisms, the marked depression and the absence of temperature, make a marked contrast to the above picture. The ear or stethoscope applied to the abdomen in the early stages of strangulation ileus may detect an increased peristaltic action, but not as marked as that observed in the obturation. In ileus due to obturation the picture is entirely different. With but few exceptions the onset is gradual; there is in the majority of cases a history of preceding abdominal disorder extending over a longer or shorter period of time; pain is not so acute and is more of a colicky nature; vomiting and distention come on more or less slowly; distinctly visible peristalsis and quite audible borborygmi are easily to be seen and heard; temperature is wanting, obstipation is

absolute. In obturation due to sudden occlusion of the bowels the onset and symptoms may be as sudden and intense as in strangulation ileus, and conversely, the latter may pursue a sub-acute or chronic course. It must not be forgotten that certain poisons, such as lead, etc., may produce symptoms closely simulating acute or chronic ileus.

Perhaps the above conditions may be made clearer by illustrating each variety with a case typically representative of its group.

ADANAMIC ILEUS.

Case I. Mr. McC., age 23, suffered about the middle of February, 1910, with an attack of acute perforative appendicitis attended by diffuse peritonitis. The only operative procedure indicated at this time was drainage, with the patient in the Fowler position. After a prolonged and stormy convalescence he made a good recovery, and remained free from any disturbance until February, 1911. At this time while engaged at his occupation in a rolling mill he began to suffer with colicky pains in the abdomen, but as this condition is not uncommon among this class of workers he paid no heed to it at first. After suffering for a few days without relief his medical attendant was consulted.

Examination disclosed at this time that he had a temperature of 100 degrees F. pulse 90; that there were nausea and cramp-like pain in the abdomen which was slightly tender to pressure at various points, and that the bowels were sluggish. There was no rigidity of the abdominal muscles to be detected at this time.

The condition gradually grew worse; pain was more severe and diffuse; the abdomen became markedly distended, and tender to pressure; retching and vomiting were now frequent and the bowels absolutely constipated, and no peristaltic action could be made out on examination; the temperature at some points in the 24 hours registered 102 degrees F. and the pulse 115 to 120 per minute. At the beginning of the trouble a tentative diagnosis of ileus due to post operative adhesions was made, but this was later changed to that of diffuse peritonitis.

Following the advice of Treeves, in such cases, we decided to open the abdomen, incise a presenting loop of bowel, and wash it out with the hopes of getting rid of a large amount of toxic material. This procedure was carried out as quickly as was expedient with thorough work, but it proved of no material value, as the patient gradually sank and died within twelve hours. The operation disclosed the absence of the supposed adhesions, and instead, a diffuse peritonitis among the coils of the small intestines.

STRANGULATION ILEUS.

Case II. Baby S., one year of age, robust hearty, breast fed child was taken suddenly ill on the morning of July 14, 1911, with severe colicky pains in the abdomen. Dr. G. W. Moore, the family physician, was speedily called and administered the usual remedies appropriate to colicky infants. The remedies did not bring about the expected relief, and it was soon apparent that something more serious than colic affected the child. He now appeared listless had vomited a time or two, and had passed with considerable straining and tenesmus several small bloody mucoid movements from the bowels. Pulse and temperature about normal. The writer saw the case with Dr. Moore at about 4 p. m. and in addition to the symptoms above detailed, there was no difficulty in detecting through the abdominal walls the presence of a doughy, sausage-shaped mass occupying the right lumbar and umbilical regions.

The presence of the mass, along with the age of the patient, the sudden onset, the bloody mucoid stools passed with great tenesmus, and the absence of fever made up a typical picture of acute strangulation ileus due to intussusception. Acting on this diagnosis the child was immediately transferred from its home to the King's Daughters' Hospital, where with the assistance of Drs. G. W. Moore and J. M. Salmon the abdomen was opened without delay. The incision revealed an acute intussusception of the ileo colic type, with perhaps 18 inches of the ileum invaginated into the colon. Reduction was accomplished without very great effort, a long appendix quickly excised, and a reef put in the mesentery with the hopes of preventing a recurrence. The entire operation consumed about 30 minutes, the child leaving the operating table in splendid shape. Briefly, recovery was complete, notwithstanding the development of a light attack of ileo-colitis which caused some apprehension for a few days.

OBTURATION ILEUS.

Case III. Mr. M., age 57; druggist had for several months complained of pain in abdomen and increasing difficulty of securing a bowel movement. He had been gradually losing weight and strength, but still continued in the active management of a large drug business. This he had been able to do up to three days before the writer saw him. At that time the patient's bowels had not moved for several days despite various strong purgatives which he had taken *ad nauseam*. He complained of cramp-like pains in the abdomen, and had vomited several times small quantities of brownish fluid, without fecal odor.

Examination revealed a markedly distended abdomen, through the thin walls of which inflated loops of bowel could be seen plainly. Exaggerated peristaltic action and loud borborygni were too evident to be overlooked by the most careless observer. Temperature normal; pulse of fair volume, and but slightly accelerated. Diagnosis: Mechanical ileus; probably malignant. Operation revealed a stricture of the bowel at the junction of the descending colon with the sigmoid. Owing to the fair condition of the patient and the free mobility of the growth it was deemed expedient to excise it. Accordingly, resection of the affected segment followed by end-to-end anastomosis with a large size Murphy button was performed as quickly as possible. Despite our judgment the shock of the operation proved too strong, and the patient succumbed to it five or six hours later. The specimen removed proved to be a carcinoma of the circular, stenosing variety, with a small excentrically placed opening, barely large enough to admit a probe three millimeters in diameter.

From the above detailed description of ileus, amplified by case reports it will be seen that the direct diagnosis is not often difficult, but the differential diagnosis may offer insurmountable difficulties. As has been already pointed out it is rarely necessary to do more than determine whether the ileus is adynamic, or due to strangulation or obstruction. To burden you with the differential diagnosis of the various anatomico-pathological varieties of intestinal obstruction would take me far beyond the scope of this paper.

Suffice it to say that upon the early diagnosis of ileus, as in acute appendicitis, hangs the life of the patient, and if you are not able to make this early diagnosis by all means *do not* delay calling to your aid a competent consultant. Conscientiously, and for obvious reasons, withhold all purgatives and opiates until a diagnosis has been made, then treat the case accordingly.

EARLY DIAGNOSIS OF ANO-RECTAL DISEASE.*

By J. G. CARPENTER, Stanford.

If there is any specialty on the face of the earth in which the general practitioner can be a specialist it is in ano-rectal diseases. He can treat all of them if he has prepared himself to do this work.

Early diagnosis in ano-rectal diseases is everything. Too often in the past we have submitted to subjective examinations; we have taken what the patient has said, but that is wrong. They need objective examinations.

If a patient will not submit to a proper objective examination, that patient has no right to be treated. As a practitioner you must be the king or prince of the situation.

Even in children we find cases of ano-rectal diseases. I have seen young children with summer diarrhoea who had fissure, hemorrhoids, aphthous ulcerations and proctitis, and by divulsing the rectum, and using antiseptic treatment these little patients have recovered, and the summer diarrhea has subsided on account of the good rectal treatment. We must use digital examination and find if there is an erythema of the anus, an excoriation, whether there is a fissure, or whether there are hemorrhoids or whether there is rectal hemorrhage.

Again, with digital examination we may find disease of the adjacent structures. There may be vesical calculus, uterine displacement, prolapse of the ovaries, or uterine fibroids. Again, we may find polyps or fibroid of the rectum by digital examination, a cancer or a sarcoma, or a stricture, as the case may be. With ocular inspection we can determine whether there is an excoriation of the fissure or of the ulcer or whether there is a stricture of the rectum, or whether the rectum is occupied by a growth of some kind. We can easily determine whether there is an ulceration or a proctitis. Again, by illumination we can see whether there is an abrasion of the sigmoid, a stricture, a tumor, or a hyperplasia. It is surprising how much can be seen. A good deal will depend upon whether the physicians uses the position of Carpenter, Hanes or Kelly. By the way, allow me to say in this connection, that I am the father of the sigmoidoscopy. I am the first man in the world who ever illuminated the sigmoid. While Dr. Kelly claimed it, he did not press his claim and gave me credit before the surgical section of the American Medical Association at Atlanta. When the speaker did his first sigmoidoscopy and a number of them subsequently, Dr. Kelly had not become a physician.

Again, from rectal diseases we will have rectal reflexes, palpitation of the heart. We will have chest pain, lumbar pain. We will have neuralgia, and by curing the rectal trouble you will cure the other troubles. That is very important. Some of the most pronounced cases of neurasthenia, we see are due to rectal diseases, and by curing the disease of the rectum you will cure the patient. So do not forget that a papilloma will cause the most intense rectal hyperesthesia and pruritis ani. I have been surprised at the results of some rectal surgeons who in their operative work have left large pieces of piles, not having given their cases proper attention. The patients have not been operated upon proper-

*Read before the Kentucky State Medical Association, Paducah.

ly, but they have left great tags around the rectum at the anal margins to itch and cause pain and annoyance, and some of these patients do not get relief until they fall into the hands of a good country doctor. (Applause). No man can be a good rectologist unless he is a genito-urinary specialist, unless he is a gynecologist and abdominal surgeon. It is surprising to me of late how eager the rectal specialists are taking to abdominal surgery. Do not forget that a good practitioner divulses the sphincters and cures three-quarters of the cases by it, such as cases of fissures and ulcers and hemorrhoids.

As to the diagnosis, you can use the sunlight on a bright day. When you cannot do this, you can use an electric light, or if you are in the backwoods you can use a tallow candle and a head mirror to illuminate the sigmoid, as I have done, and you can all do this if you want to. Remember, a good diagnosis in ano-rectal diseases is everything. You practitioners should make these diagnoses as early as possible, and institute early treatment, collect an early fee, and have these patients stay at home where they can receive the best attention, and where you can get the most reputation. (Applause).

THE IMPORTANCE OF EARLY DIAGNOSIS OF ECTOPIC PREGNANCY.*

By HUGH E. PRATHER, Hickman.

"When the fertilized ovum is arrested at any point between the Graafian follicle and the uterine cavity, and there undergoes development, we designate the condition as an extra-uterine or an ectopic pregnancy. • • • Unless artificially relieved, an ectopic pregnancy always terminates fatally to the child and is frequently fatal to the mother." (Kelly).

Abdominal section, in my opinion, is the only reliable method for the relief of this condition. Hirst states that, without surgical treatment, about two-thirds of these cases die. So great a man as Howard A. Kelly has said: "The proposal to defer the active treatment of an extrauterine pregnancy, in its early stages, in the interest of the child, is simply sentimentality." In order that the greatest number of lives may be saved, it is absolutely necessary to make the earliest possible diagnosis. This is not easy to do before primary rupture, which often occurs from the 4th to the 8th week. We should be particularly on the outlook for ectopic gestation in those women of child-bearing age in whom an interval of several years has elapsed since the birth of the last child, or who give a his-

tory of a previous extrauterine pregnancy, or some tubal affection.

Many of these patients will give a history of having missed one or more menstrual periods; or, after having missed a period, two or three weeks later will develop a flow of a tarry, sticky character, which continues for ten days or more. Upon careful microscopic examination of this uterine hemorrhage, decidual cells will often be revealed.

The patient usually has nausea with changes in the breasts and in the color of the genital mucous membranes, and after the third month, the presence of colostrum.

Physical examination may reveal an enlargement anterior, posterior, or lateral to the uterus and causing its displacement, which may have a doughy or elastic feel, and should be handled very carefully as a precaution against rupturing it.

The patient usually complains of sharp colicky pains, due to uterine contractions and, if accompanied by faintness, indicates a partial rupture. Often the uterus is slightly enlarged and the cervix softened.

When rupture occurs, the patient may suddenly collapse and fall to the floor, or present symptoms which simulate salpingitis, appendicitis, or uterine abortion. In salpingitis and appendicitis, however, we would expect to find an absence of any symptoms of pregnancy. The absence of any rigidity of the abdominal muscles will help to eliminate appendicitis. Furthermore, these conditions are usually accompanied by a rise in temperature, while the reverse is true in ruptured tubal pregnancy, although we may later have a rise in temperature due to infection. In uterine abortion we would expect to find a dilated cervix and the absence of any abdominal mass near the uterus. In uterine abortion the pain is more frequently in the lumbar region, while in ectopic it is distributed over the lower abdomen. Also, a microscopic examination of the discharge would show decidual cells with an absence of chorionic villi which would be present in uterine abortion. Boldt calls attention to a sharp lancing pain in the rectum in these cases. Blood examinations are of little value.

Surgical treatment should be instituted as soon as the diagnosis is tentatively established, except in those cases in extremis.

When unable to differentiate between *tinea circinata* and *eczema*, resort to the microscope; the presence or absence of the characteristic fungus of *tinea* will settle the question.

Much-Holtzmann Reaction.—The authors concur in the prevalent conclusion that the Much-Holtzmann reaction has no diagnostic significance.

*Read before Kentucky State Medical Association, Paducah, October, 1911.

DIAGNOSIS OF HEAD INJURIES.*

By A. D. WILLMOTH, Louisville.

In the absence of Dr. Letcher, who was to have contributed a paper on this subject, I have been asked by our President to make some remarks on this subject, which I have consented to do.

You have heard from the previous speakers, beginning with my friend Dr. Wathen, how important it is to diagnose cancer in various portions of the body; you have likewise heard from Dr. Carpenter relative to the importance of diagnosing diseases of the rectum, and it is with no little hesitation that I shall try to tell you how especially important it is to diagnose injuries of highly organized tissue such as the brain. With all of the emphasis that has been put on the other papers in this symposium, I will say to you, in the brain, of all structures, do we have to make an early diagnosis if we expect to get the best results. This may mean a surgical result. Many times it means doing nothing. The results, as I take it, are those, first, that bring the best chances to the patient for recovery; second, those that bring results to the friends of these patients. What I mean by that is this: if the cases are clearly inoperable when an early diagnosis is made we can tell the friends about it, and an operation is avoided, and thereby we do not cast opprobrium on the whole field of surgery and get condemnation heaped upon our heads for operating on inoperable cases. If we would make early diagnosis we have to do away with the old classification that has been laid down from time immemorial of concussion and compression of the brain. Even to-day, if we look over many of the medical journals and most of our text books, we will find that authors still adhere to the old classification; that they speak of concussion and compression of the brain, the first term really meaning nothing. There is just one condition in brain injuries that brings about the entire trouble, and that is the increased intracranial pressure. We have been clearly taught by Frazier and by Cushing in particular that all conditions in the brain are brought about by increased intracranial pressure. If this increased intracranial pressure is due to an injury, we merely have an extravasation of blood as in any other part of the body or tissues. Such hemorrhage being either or both epidural or subdural, but the symptoms are quite as frequent by encroachment of the boggy brain upon its vascular and plasma channels. If the increase in blood pressure is sufficient to overcome the effects of this increased tension the patient will recover, while

on the other hand if the heart is unable to cope with the obstruction to the cerebral circulation an anaemia of the vital centers takes place which if unrelieved proves fatal. Of course all are aware that injury to important centers can take place at the instant the trauma is sustained.

The facts being true all brain cases should be divided into four classes, first, those in which the injury is so slight, recovery will take place in every case without interference. Second, those in which the injury is so great death will result it matters not what is done. Third, those with local lesions and focal symptoms where interference is clearly indicated. Fourth, those of borderline type where symptoms for and against operations are equally divided.

There are some points in brain injuries that we fail to look for close enough. What are we going to do, or what are we not going to do, for the cases that present themselves to us for final decision? First and foremost, I think, we pay too little attention to the history of the cases. In most instances we are prone to look on the case with grave doubt when we see the patient at the time we are called in. If we will take the trouble to get a clean-cut history, if such is possible, although I recognize in our hospital work, where patients are brought in by the police patrol or in an ambulance, with no history practically, this is many times difficult to obtain, but in the average case there is some one present or there may be some one near enough at the time of the injury from whom you can get a clear history. If we take the trouble to get such a history, or if the case has been treated by some physician before we are called in to render a final decision, we will undoubtedly get points of information that are of especial importance. It is important from the history to know whether or not the patient has been wholly unconscious from the moment of the receipt of the injury. If the patient has been wholly unconscious from the time he sustained the injury, I think it is Frazier who says that in most instances the last named cases are of such a character that we had better let them alone; that the brain in most of these instances has been severely lacerated, and that any operation we do will do the patient no good. The patient dies sooner or later, and the impression made upon the family by the operation is not a favorable one, for they are unable to appreciate the difficulties under which we labored. When a man receives an injury and gets up off the ground after he has received a blow, and later becomes unconscious, you have a clear history that the case is probably one of hemorrhage, and it is a question of localization of it, and of dealing with it surgically.

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Another point we fail to look for close enough in these cases is to make use of lumbar puncture. In many instances, in cases that are brought into the hospital, if you are able to get a correct history that shows that the patient was unconscious from the beginning, if you make a lumbar puncture, you will be rewarded in many such instances, by removing evidences of the hemorrhage which means that the patient has sustained a severe laceration opening up the channels, allowing the blood to get down there, and you know very well what the result is going to be in such a case, and in many instances it will prevent operating on cases that are clearly inoperable. So also will changes in the circulation show evidences of encroachment on important centers.

Let me mention another point in connection with the early diagnosis. In a case of hemorrhage in the brain there are variations in temperature in various parts of the body, as, for instance, in the axillae. Where these patients are brought to the hospital unconscious, with or without a dilated pupil in one or both eyes, it will lead you to one side or the other of the brain. If you take the trouble to take the temperature in the two axillae with the same thermometer, with the same care, you will find in the axilla on the opposite side from the injury a temperature higher than it is on the side where you expect to find the blood clot. That means to you that the clot is on the other side. If you have a temperature which is much higher in the left axilla, then the trouble is likely in the right side of the brain. You will have paralysis of the extremities in the opposite side of the brain, showing clearly that he hemorrhage is on that side.

Another thing that is of special importance is to make as early a diagnosis as possible in order to do something radical to cope with the pathological condition before there has been a great deal of damage done to the brain structure. It matters not whether it be a hemorrhage or pressure. If you have a hemorrhage that is producing pressure, that is extra-dural, the sooner you get in there the less blood will be lost, and the less pressure there will be to the important structures, and the less likely is the patient to have other conditions following that. If the hemorrhage is intra-dural, it is more important to make an early diagnosis and to do what you can for the patient. In this class of cases, where there is rupture of the brain, more or less damage being done to the brain structure, where there is hemorrhage at the base of the brain, we should strive to do for that patient what Frazier has done, namely, a decompression operation. Of course, this would be considered a radical operative measure, but he

has proven that we have pressure to deal with, and it is not so much a clot or hemorrhage itself at any particular point, but it is the increased intracranial pressure that causes the patient serious trouble and is finally the cause of death in these cases. A decompression operation made through the temporal region will in many cases give relief. Those of you who have followed closely his writings, will remember the brilliant results he has had along this particular line.

Another reason why early diagnosis is indicated is to lessen the pathological conditions that are present or limit them to a minimum, so that there may be no complications following. In many instances you will avoid such a serious complication as Jacksonian epilepsy.

Some few months ago in the JOURNAL I reported a number of cases on which I operated, with some good results along this line. There were not only injuries to the skull itself, but in other instances there were injuries of the brain structure, the cortical substance, or of the membranes covering the brain. A careful diagnosis in such cases as these would lead to interference and proper treatment of conditions which later on, as the result of adhesions, lead to the development of Jacksonian epilepsy, requiring a great deal of operative interference to relieve them, with the possibility of not being able to relieve them at all because of the fact that the epileptic habit has been established. This condition is one with which you are all familiar, and one, as you all know, which may cause a patient to have attacks even after the pathological condition has been relieved. Therefore I say, in the injuries of the brain, of all structures, it is certainly important that an early diagnosis should be made, that we may be able to know just what we are going to do. It is just as important to say no as it is to say yes, and to give the family the reasons why. If you think the patient is going to die, it is important that a very careful, painstaking diagnosis be made, and that a grave prognosis be given to the family. Unless you make a careful diagnosis and inform the family of it you had better stay away from the patient. Such a patient is likely to die in a few hours, and it is much better that he should die without surgery than with it, because if you should operate on such a case and the patient should die you would get blamed, no matter what the pathological condition was that indicated the operative interference..

Influence of Calcerous Drinking-Water.—Lewis claims that here is no evidence that hard water has any bad effect; on the contrary, all the evidence is the other way.

THE IMPORTANCE OF THE EARLY DIAGNOSIS OF PLACENTA PREVIA.*

By J. T. REDDICK, Paducah.

A recent contribution to medical literature informs us that in twenty-five thousand recent consecutive deliveries in Sloan Hospital New York, there were 223 cases of placenta previa, or 1 in 112. This, of course, is a somewhat greater frequency than occurs in private practice for the reason that many cases which if normal would have been treated at home, are sent to the hospital on account of the complication. (1)

Statistics show that the infant mortality in placenta previa is between fifty and sixty percent and the maternal mortality is ten to fifteen per cent or more. This being true it is a formidable condition to treat and its early recognition becomes a matter of great importance to the obstetrician.

In no other condition of pregnancy is the danger to life so imminent, in no other is a knowledge of the proper methods for averting this danger so essential, and in no other is a judicious discrimination as to the relative value of each of the several procedures so necessary as in placenta previa.

The prominent indication of placenta previa is hemorrhage, and this symptom alone is all that is necessary to call our attention to the probability of placenta previa, and, this symptom alone is all that requires attention in the way of treatment.

The hemorrhage of placenta previa is characterized as unavoidable in contradistinction to other obstetrical hemorrhages, more especially that designated "accidental."

The hemorrhage occurs during pregnancy or labor, and may occur as early as the fourth or fifth month. It is very probable that many abortions and miscarriages are instances of placenta previa in which the true condition is unrecognized.

Every case of hemorrhage occurring during pregnancy should receive the prompt attention of patient and obstetrician and much depends upon the proper care and treatment of the patient as to the final outcome of the case.

During pregnancy the hemorrhage is not apt to be dangerous but at the end of gestation or the beginning of labor, it may in a few moments place life in the greatest danger.

However, a considerable amount of bright vaginal hemorrhage occurring during pregnancy is always a symptom requiring prompt attention, and if occurring during the latter weeks of pregnancy should be considered as indicating a critical condition and should be

seen by a competent obstetrician and prompt efforts be made to avert a sudden dangerous hemorrhage.

The treatment of placenta previa as previously stated, is essentially that of hemorrhage, hence the importance of an early diagnosis as no one plan is applicable to all cases.

The period of pregnancy or stage of labor at which the hemorrhage is first observed, and the situation of the placenta must, of necessity, govern the treatment.

If the hemorrhage occurs during the early months of pregnancy and a positive diagnosis can be made, and an abortion does not occur, it may be advisable to empty the uterus under modern well-known rules of procedure.

After the viability of the child, it claims consideration, but as fetal mortality is high under the most favorable conditions and with the most approved treatment the child's claims are not to be weighed against the risk of the mother's life.

Again, the accuracy of an early diagnosis is important as bearing upon the treatment of the case, in, that there must be considered the extent of the first hemorrhage, and its effect upon the mother and fetus. If the child dies there can be no reason for further delay in emptying the uterus. If the mother should, by reason of the hemorrhage, be brought to an extremely critical condition further delay is not justified except for resuscitation.

REFERENCES.

- (1) The treatment of placenta previa at the Sloan Hospital for Women, Edwin S. Cragin, M. D., New York. Transactions of the American Gynecological Society, Atlantic City, May, 1911.

DISCUSSION.

W. W. Anderson, Newport: One of the unfortunate things that sometimes happens to the patient who is in need of an early diagnosis is that he is put upon expectant treatment. For instance, the patient presents himself with an obscure history of gastric pain. Without taking the trouble to go into the case carefully the practitioner puts this patient on expectant treatment. Again the case may be one of irregular uterine hemorrhage. The doctor suspects that surgical intervention may be necessary. Perhaps he is not a surgeon and could not give proper surgical treatment. Therefore he puts the patient on expectant treatment.

The first of these doctors is criminally careless and the second criminally selfish. In either instance such expectant treatment is expecting the patient to recover spontaneously, or develop symptoms that proclaim the diagnosis without the trouble of study.

In such hands the "day of grace is sinned away," and gastric hyperacidity which is curable goes on to ulcer which is less amenable to treatment and ulcer goes on to cancer and death.

*Read before the Kentucky State Medical Association, Paducah, 1911.

The uterine hemorrhage of incipient malignancy is allowed to go on to the foul discharge of necrotic cancer too widespread to remove.

The ruptured appendix, the gangrenous gut of hernia, the delayed antitoxin in diphtheria and tetanus, and the fresh air only after there is scarcely lung enough left to use it, all these belong to an expectant treatment which seems to expect the patient to die and he usually fulfills the expectation.

Whenever the case presents symptoms in the least degree suggestive of malignancy either internal or external the necessity for diagnosis is urgent. Sometimes the diagnosis can be made promptly by the medical man. Usually the differentiation in his unaided hands is slow. We have seen long and patient effort in this line result in a brilliant diagnosis of cancer of the sigmoid, and witnessed the postmortem confirmation. But all this was of no value to the patient.

For the general practitioner there are but two points of legitimate contact with malignancy; first to make a diagnosis and last to relieve suffering in hopeless cases. The diagnosis by medical examination is difficult. Surgery is so safe, so swift and so sure that we ought to make more use than we do of the surgeon in establishing the early diagnosis of malignant disease.

There is no medical treatment of cancer. Hence when its presence is known the case belongs absolutely to the surgeon and it is clearly our duty to get out of his way.

J. G. Carpenter, Stanford: I wish to say a word with reference to the early diagnosis of ectopic pregnancy. This is a most vital subject. It is unfortunate for a woman to have an ectopic pregnancy, yet the old saying is that "the early bird catches the worm," and early diagnosis is everything to the patient and to the physician. We should make a diagnosis before rupture of the tube. We have the subjective symptoms of pregnancy. We have the objective symptoms of softening of the uterus, discoloration of the birth canal, enlargement of the uterus, a change in the position of the uterus, a shortened cervix, an enlarged fundus, and then there has been usually a period of sterility, with a history of ovarian and tubal disease, and enlargement of the uterus. A patient may feel in unusually good health, when suddenly in doing something she falls over and faints, or she has an attack of violent pain in the lower part of the abdomen and exclaims "My God, I am dying." The voice is husky and whispered. The skin becomes cold and clammy; the pulse throbs; the eyes glassy; the features are pinched, and then there is that anxious expression of "God save me, if you can." By digital examination we find the conditions of the uterus that I have mentioned. Where there is rupture, you will find the broad ligaments and fornices filled, tense and doughy and elastic, indicating hematocele. Again, by rectal examination you will find supra and lateral intra-peritoneal pres-

sure from hemorrhage, including the rectum, where rupture has taken place. It seems to me, with this clinical picture most practitioners should be able to diagnose ruptured ectopic pregnancy.

Again, ruptured ectopic pregnancy takes place between the folds of the ligament in the third month, but the landmarks to survey are the sterility, the tubal disease, the enlarged and softened uterus, and so on.

Again, another point is that the tube may not have ruptured. The patient may go on until the sixth or eighth or even ninth month with ectopic pregnancy, and the question arises, is there an ectopic pregnancy, a fibroid, a multilocular ovarian cyst, and so on? After a diagnosis of ectopic pregnancy has been made we do not rush in rapidly where angels fear to tread, but we wait and bide our time, keep the patient in the best condition possible, and when the attachments of the after-birth are maturing and ready to undergo degeneration, we operate and save the lives of both the mother and child.

J. T. Reddick, Paducah: Dr. Carpenter has given a graphic description of one kind of case of rupture of the tube in ectopic pregnancy, but sometimes it is difficult to make a diagnosis. If you have a rupture in the early stage of pregnancy, that rupture is small, and the hemorrhage is small, you may not be able to make a diagnosis for several hours, as in one case that occurred in my own practice. In this case it was impossible to say whether or not it was a case of ectopic pregnancy with rupture, whether it was a case of appendicitis, or one of acute intestinal obstruction. The patient did not show these alarming symptoms immediately because the hemorrhage was light.

Dr. Carpenter says that we may be able to make the diagnosis before rupture, but frequently the physician is not called to see the patient until rupture has already taken place. I know it is very difficult frequently to make a diagnosis, and perhaps if you can get the patient to a hospital or get her on the operating table soon enough you will not make a diagnosis at all until you have opened the abdomen and have seen what the pathological condition is. In the case I refer to the patient was out in the lawn and was stricken with quite severe pain in the right side, and I gave it as my opinion at once it was a case of fulminating appendicitis, intestinal obstruction, or a ruptured tubal pregnancy. By the time we got her to the hospital, which was several hours afterwards, she had reached that stage with an alarming hemorrhage when it was possible to make an almost positive diagnosis of rupture because of the hemorrhage and the profound shock. She was so profoundly shocked from the hemorrhage she did not even know when she was taken to the hospital. Fortunately she recovered. We do not meet these cases very frequent-

ly which Dr. Carpenter has so graphically described.

Edward Spiedel, Louisville: When hemorrhage occurs suddenly in the latter half of pregnancy we must differentiate between an unavoidable hemorrhage, the hemorrhage from a normally implanted placenta. The differentiation is made through the definition of terms. An accidental hemorrhage due to separation of a normally implanted placenta is such as to cause sufficient disturbance to loosen the placenta and give rise to a hemorrhage behind the placenta; whereas nothing of the kind occurs in placenta previa. While we may not be able to make a diagnosis of placenta previa in all cases, we should know when our pregnant patients are predisposed to placenta previa and in the light of these events women are apparently more disposed than they were formerly. The statistics given by Dr. Reddick in connection with his case are much greater than the statistics found in the average textbook on obstetrics. Placenta previa is undoubtedly becoming much more frequent than formerly. In the last six months I have had six cases of placenta previa, four of which were of the central variety. I believe that the greater frequency of this condition is due to two conditions, namely, the greater frequency of gonorrheal endometritis and to the use of automobiles. The reason why gonorrheal endometritis predisposes a woman to placenta previa is on account of the pathological changes which occur in the endometrium, and in consequence of the gonorrheal infection the chilia on the mucous membrane disappear, and the ordinary cells are displaced by squamous epithelium, giving a feeble hold to the ovum as it reaches the loose membrane of the uterus, and in consequence the ovum slips farther down in the cavity of the uterus. And automobile riding causes a predisposition to placenta previa because it also dislodges the ovum, the constant jarring of the automobile giving rise to early abortion. If you take the previous history of cases of placenta previa you will find they will have two kinds of histories. They will give a history of previous abortion, or threatened abortion, that was arrested by medical means or by rest. That, of course, means that the ovum was dislodged; it secured a foothold lower down in the cervix and developed there again, the placenta spreading over the lower segment of the uterus and encroaching upon the internal os. In multipara especially the uterus is relaxed when placenta previa is present. That has been the history of the cases I have seen and have reported.

As to ectopic pregnancy, rupture usually takes place during the eighth week, or there is an abortion, and early diagnosis means a diagnosis before this time. In a woman of the childbearing age, one who is subjected to the possibility of impregnation, with the absence of the menstrual periods, we should be led to conclude that she is

pregnant. If in addition she complains of pain in one or the other ovarian region, particularly in a woman who has not had ovarian pains, it should lead us to make an examination in the early months, even in the first month of impregnation, but, of course, you would find few symptoms on vaginal examination. You may find an enlarged and soft uterus, but in a case of intrauterine pregnancy you will find on one side of the uterus an enlarged fluctuating mass which the previous history would indicate had not been there previously. When there is a flow of blood from the vagina the differentiation must be made between the return of blood from ordinary delayed menstruation, between the blood flowing from a threatened abortion, and between the characteristic bloody discharge that is incident to an extrauterine pregnancy. In ordinary menstruation, naturally the flow should be very much like that mentioned in the preceding history of menstruation, and vaginal examination should show no enlargement or softening of the uterus, nor any other signs of pregnancy. In a threatened abortion you will have an enlarged and softened uterus; you will have a flow of blood that largely consists of blood clots. In extrauterine pregnancy you will have a flow that is lighter in character than the ordinary menstrual flow, watery and bloody, but largely free from blood clots. It may contain decidua structures because the uterus under these circumstances contains decidua. Then by vaginal examination under these circumstances, you will find an enlarged and softened uterus, and on one side or other a tumor that shows the location of the ectopic pregnancy.

In regard to the treatment of placenta previa it consists of immediate evacuation of the uterus. I have been called to patients who were almost moribund and pulseless, and the only proper thing to do in these cases is to resort to vaginal tamponade sufficiently to control the hemorrhage until preparations for operation can be made, or the patient can be transferred to a hospital. Then commencing with manual dilatation and resorting to version.

In regard to the method of version that I described this morning in a case of placenta previa centralis, you would be astonished how nicely the placental tissue can be severed with the fingers and how easily you can work through the membranes that are left and reach the child through the membranes just as readily as if you had a lateral implantation of the placenta and no placental tissue to obstruct.

T. A. Frazer, Marion: I want to say just a few words in reference to the remarks that have been made by Dr. Wathen. He has said some very timely things in regard to the early diagnosis of malignant conditions, and one thing I regard as the keynote of his discussion of the subject was that the laity are not educated to understand the meaning of the symptoms. I want to

say further, that our doctors are too reticent; they are not taking the interest they should take in educating the laity, and especially in educating our women as to the meaning of these various discharges they may have from the uterus preceding fatal malignancy. We need to educate them to the importance of a little lump that may be felt in the mammary gland.

My experience with malignant diseases in country practice has been that the average doctor either does not suspect malignancy or he is afraid to tell his patient that she has malignant disease for fear she will go to some surgeon and that the surgeon will get the credit for making the diagnosis. I want to express my abiding faith in the surgeons of the country. I am glad that the day has come when we can entrust our patients to surgeons with that abiding faith, with that confidence that they are going to make these exploratory operations, if need be, to make a diagnosis; that they are going to make them safely and try to save the lives of the patients. While I believe in every man studying for himself—and the general practitioner should be the greatest specialists there is—yet I do not believe in any man in this day and age of the world undertaking to be a specialist when he is not qualified for it. However, I believe it is a day of specialism in surgery, and it stands to reason that the man who is operating very frequently can do better and more skillful work than the man who only does an operation occasionally. A butcher does his work over and over until he becomes expert. Our surgeons are careful, they do their work safely, and with modern asepsis which is carefully applied in the well equipped hospital, when I send a patient to a surgeon for operation I feel perfectly easy. I feel perfectly satisfied that the patient is in safe hands. We have many good surgeons, and there are but few of us who are not within easy reach of a good surgeon.

In regard to ectopic pregnancy, I want to relate a case in which I was called in consultation. This case occurred some five years ago. Dr. Daugherty reported this case to the association at the Owensboro meeting, but unfortunately it was just before the association adjourned, and there were not more than a dozen men to hear the paper. The case occurred in a woman, thirty-five years of age, who had had one child when she was seventeen years of age. She did not conceive any more up till this time. Dr. Daugherty was the family physician. They called him hurriedly as the woman had fainted. He reached the home and made a diagnosis of rupture of the tube, and called for me immediately. I got there and agreed with him in the diagnosis. We advised immediate operation, but the family objected, and said she might die, and they would not have her operated upon. We told them, of course, she would die without an operation. The case went along. The woman continued to live in spite of everything, and for days and days she was con-

fined to her bed. She was between the third and fourth months of pregnancy. According to my recollection, it was about nine weeks from the time of the first hemorrhage that she expelled the fetus from the rectum. We got the specimen and kept it. Dr. Daugherty had the specimen with him at the Owensboro meeting, and exhibited it. This woman got well. She is apparently in perfect health. I have examined her since, and I find that her vagina and rectum are so bound down by adhesions that it is impossible to make very much of an examination, yet she is apparently in good health. That is one of the extreme cases showing what nature will sometimes do; yet I would not have anyone infer that that is the best plan to manage these cases. I think these cases should be operated upon immediately.

William H. Wathen, Louisville: Intestinal obstruction is a subject in which we should all be much interested. I do not know of any condition that should be diagnosed earlier than intestinal obstruction. We must look upon it in the light of an abdominal catastrophe, and if the diagnosis is made promptly and operative interference resorted to, it will usually be successful. If operation is long delayed then no operation will be of benefit. All of these patients will then die. Of course, I have reference now to total acute obstruction.

There is one phase of this subject that I am going to speak of particularly; that is intestinal obstruction from appendicitis. This could be almost entirely avoided if the physician would interpret correctly the symptoms of acute appendicitis. This is easily done if the case is carefully observed. What are the symptoms? First and always pain, generally in the epigastric region, becoming sometimes diffuse, but localizing itself finally in the right iliac region; then rigidity of the abdominal muscles, next nausea and vomiting; later elevation of temperature and acceleration of pulse. When a child or an adult, and more especially a child, has an acute abdominal pain, very often it is an appendicitis; but the symptoms in an acute appendicitis in the child are not so marked except the pain, as in the adult. You may have an acute appendicitis with severe pain in a child with practically no abdominal rigidity; but finally the symptoms will otherwise develop practically as they do in appendicitis in an adult. I think if we would all watch carefully for these symptoms and interpret them correctly, if we would then educate ourselves never to give anything by the stomach, not even a drink of water, always avoiding purgatives, keep the patient quiet, apply an icebag over right inguinal region, we will seldom have a case of perforative or gangrenous appendicitis. This has been my experience in surgery of the appendix where there was a gangrenous or a perforated appendix; namely, on the first indication of pain

a purgative was given, and perforation later occurred.

I was much impressed recently in reading a paper which was sent to me by Mr. Moynihan, of Leeds, England, in which he reviewed his work in appendicitis for seven years, and in every case of gangrenous or perforative appendicitis a purgative had always been given. It is quite natural that a loving mother or a nurse should give a little child, especially, and even an adult suffering severely with acute abdominal pain, a purgative. Hence, this final cathartic has been the cause of innumerable deaths, and will continue to be unless we teach the profession, and teach the mothers and the nurses, never to give a purgative in any condition of severe pain in the abdomen until we have time to determine what the disease is. In acute intestinal obstruction from other causes, of course, no sensible person would think of giving a purgative or anything by the stomach. In these cases we should operate quickly, and when that is done we will save all our patients.

These cases of perforative appendicitis are nearly all of them therapeutic perforations and may never have resulted if the patient's stomach had been kept empty and no cathartics given. Why should you give anything by the stomach in appendicitis? It has been proven conclusively that even water taken into the stomach will cause active peristaltic action in the appendix, and cecum—a thing we do not want. Purgatives will increase the peristaltic movements of the intestines, and likewise the number and virulence of the bacteria in the ileo-cecal region, and the greatest number of virulent bacteria in the intestinal tract are found in the lower ileum and in the cecum on each side of the appendix. We must stop active peristalsis by keeping the stomach free of food, liquids or purgatives, and by thorough stomach lavage and aspirating all liquid from the stomach by the pump.

If in acute appendicitis, beginning with severe abdominal pain, we can put an end to the phloeoathartic propensities of doctors, mothers and nurses, there will be fewer gangrenous and perforated appendices resulting in the death of these patients. Unfortunately too many of our cases of acute appendicitis give the following history "Pain, purgation, perforation"—often death so easily prevented by correct treatment and timely surgical operation.

J. G. Carpenter, Stanford: I want to say a word or two more in regard to ectopic pregnancy. When a patient with ectopic pregnancy has a rupture, has symptoms of collapse and shock and fainting, and so on, she may recover; there may be contraction and retraction of the walls of the blood vessels, rupture plugged with a clot or much hemorrhage; or there will be a localized peritonitis in connection with rupture of the tube; the tube will have emptied itself, the placenta and fetus escaping into the peritoneal cavity. This

tube will heal over, and the patient will recover from the general condition of collapse and shock, get up and go about her work, and after a month or two months I have seen them going around with their abdomens full of blood, with fluctuation like ascites. On abdominal section, you will find that the peritoneum presents a dark discoloration, and I have always seen that dark discoloration of the peritoneum in ectopic pregnancy with much hemorrhage intra-peritoneal. To my mind it is a diagnostic measure. So these patients who have rupture do not all die. They may go around for weeks or months or more with the abdomen full of blood; or with high pulse and elevation of temperature. If you resort to abdominal section, do clean surgery, they will recover and go on their way rejoicing.

A. D. Willmoth, Louisville: I have nothing further to say on head injuries, but I wish to take the liberty of saying a few words in regard to intestinal obstruction and the indications for early diagnosis and give three don'ts for you to remember.

In those cases of abdominal pain, where you are in doubt as to the condition that is present, wash their bowels out, wash their stomachs out, keep water away from them, and remember three don'ts. Don't give any opium. Don't give anything in the stomach, and don't delay.

H. E. Prather, (closing the discussion): There were a good many points in connection with the diagnosis that I did not take up in my paper. In the interstitial variety of ectopic gestation, which is, where the impregnation is within the uterine wall. When rupture takes place we have the largest hemorrhages as a rule.

I did not try to differentiate between tubal abortion and tubal rupture, which occur at about the same time, although the importance of them is equal when it comes to treatment.

A very important point, and especially in order to make an early diagnosis, is to try to train our patients and those over whom we have any influence and tell them this, that whenever they have reason to believe themselves pregnant to consult their doctor immediately, not wait until later in pregnancy, but put themselves under a careful, competent physician at once, and he should on the slightest provocation make a thorough examination, and by so doing he may be able to detect fairly early, ectopic pregnancy.

I would like to close with the statement of Dr. Werth, who says that every case of ectopic pregnancy in its early stages should be considered in the light of a malignant affection and treated in the same manner that we treat a malignant growth, namely, by extirpation.

In treating gonorrheal complications or sequelae by means of vaccines, bear in mind that, as a rule, autogenous vaccines are of much more value than stock vaccines.

COUNTY SOCIETY REPORTS

Boone—The Boone County Medical Society met with O. E. Senour, of Union, on December 20th, 1911. It being regular election of officers, the following were elected for 1912:

President, B. K. Menefee; Vice President, O. E. Senour; Secretary-Treasurer, F. L. Peddicord; Delegate, L. C. Hafer; Censors, Drs. Slater, Rankin and Nunnelley.

C. G. Crisler, of Cincinnati, was elected an honorary member.

There being no further business the program was taken up.

L. C. Hafer read a paper on "Epidemic Poliomyelitis."

C. G. Crisler read a paper on "Elephantiasis" and presented a specimen of scrotum he had removed weighing six pounds.

After discussion supper was served, after which the meeting was adjourned to meet with L. C. Hafer, of Florence, on the 17th of January, 1912.

F. L. PEDDICORD, Secretary.

Clark—I have the following report to make from Clarke county. The Clark County Medical Society met at the court-house on January 16th, when the following officers were elected for the year 1912: President, Ernest Cole; Vice President, J. F. Lockhart; Secretary-Treasurer, D. H. McKinley; Delegate, C. G. Stephenson. Resolutions were adopted protesting against the repeal of the Vital Statistics Law, and against the passage of the Optometry Bill, and House Bill No. 74. After the business session the society adjourned to the "Tea Room" where an elegant four course dinner was served.

D. H. McKINLEY, Secretary.

Calloway—The Calloway County Medical Society held its first meeting for the new year on January 11th, 1912, and the attendance and interest were fine. The outlook is good. The society changed its day of meeting from the second to the first Wednesday of each month, that it would not conflict with Marshall County's meeting. Some doctors want to attend both.

W. H. GRAVES, Secretary.

Fayette—A meeting of the Fayette County Medical Society, the first of the year, was held last night at 120 Upper Street, at which the new officers were installed and a number of resolutions adopted, among them being one relating to the violation of a section of the Principles of Medical Ethics, which have been adopted by the American Medical Association, with which the Fayette Society is affiliated.

A resolution was also introduced and adopted declaring the Society's endorsement of the action taken by the county and city board of health in regard to the tuberculin test for dairy cows.

The following officers were installed: C. W. Trapp, President; Josephine Hune, Vice President; L. C. Redmon, Secretary; B. L. Coleman, Treasurer; W. O. Bullock, Censor, and C. A. Vance, Delegate to the State Medical Association.

Papers were read by B. A. Cockrell, on "Scarlet Fever" and by T. C. Holloway, on "Some Incongruous Remarks," while a number of others joined in the discussion.

The following resolution was adopted:

"Whereas, The American Medical Association has adopted certain principles of Medical Ethics, Section 4, Art. 6, of which reads as follows: 'It is derogatory to professional character for physicians to pay or offer to pay commissions to any person whomsoever, who may recommend to them patients requiring general or special treatment or a surgical operation. It is equally derogatory to professional character for physicians to solicit and to receive commission; and

"Whereas, The Fayette County Medical Society by its act of affiliation with the American Medical Association has adopted said principles of Medical Ethics with the force and effect of organized law operative during the continuance of such affiliation; and

"Whereas, The statement is made in the public and professional prints and confirmed by general report that said Section 4, Art. 6, of the principles of Medical Ethics is being violated by members of the medical profession,

"Therefore, Be it Resolved, That the Fayette County Medical Society hereby especially reaffirm said Section 4, Art. 6, of the Principles of Medical Ethics as a part of the law, governing its organization, and declares that any member who shall violate same shall be expelled from membership upon conviction by the censors, and that such act and cause thereof shall be given the widest possible publicity."

L. C. REDMON, Secretary.

Fleming—The Fleming County Medical Society met in Flemingsburg, December 20, 1911, and elected officers for 1912, as follows: President, Chas. W. Aitken; Vice President, J. C. S. Brice; Secretary Treasurer, J. B. O'Bannon; Assistant, T. B. Vice; Censors, T. B. Vice, one year; J. C. S. Brice, two years; Chas. Aitken, three years; Delegate State Society, C. R. Garr; Alternate, the whole push. We have been somewhat negligent in the past, but things look bright for bigger and better service in the future.

J. B. O'BANNON, Secretary.

Kentucky Midland—The Kentucky Midland Medical Society at its sixty-fourth quarterly meeting elected the following officers:

President, C. G. Daugherty, Paris.

Vice President, Lee Collins Redmon, Lexington.

Secretary-Treasurer, Chas. C. Garr, Lexington.

A number of new members were added to the

roll, among them being A. H. Keller and J. T. Brown, of Paris.

The next meeting will be held in Georgetown, on April 11th. Drs. Barlow, of Georgetown; Barkley and Sprague, of Lexington, O'Connor, of Louisville, are on for papers and Ussery, of Paris, Reynolds, of Frankfort, Bradley, of Lexington, and Knox, of Georgetown, are on for discussion.

The society passed resolutions affirming their allegiance to the principles of medical ethics of the American Medical Association and refused to admit or allow retention of membership in the case of anyone found guilty of splitting fees. The society also passed important resolutions, due notice of which will appear in *The Herald*, leader and local papers.

Among those present from a distance were Drs. Stuckey, Redmun, Estill, Vance, VanMeter, Lewis, Garr, Holloway, Willmoth, Cockrell, of Lexington; Parker and McCauley, Versailles; Reynolds, Frankfort; Louis Frank and J. T. Windell, of Louisville.

C. C. GARR, Secretary.

Muldrough Hill—Meeting called to order by President Ed. Smith at 10:30 a. m., in the City Hall, about thirty members being present.

On Motion, the reading of the minutes was dispensed with.

A. D. Willmoth made a motion that the society go on record as opposing the proposed Optometry Legislation and that each member use his influence in opposing it.

On motion, a committee of Drs. And, McChord and Dugan was appointed to visit Dr. Bowen, who is very ill and present the respects of the society.

R. A. Bates, Shepherdsville, reported verbally several interesting cases of Volkman's contracture following fracture of the arm.

O. Z. And made a motion that all visitors be accorded the privilege of the floor. Carried.

F. T. Fort, Louisville, discussed Dr. Bates' report and reported one of his own. Thought it had surgery to apply Plaster of Paris at once as tight bandages are the cause of these conditions. In his case he shortened the bones of the arm and greatly improved the condition.

W. C. Dugan in discussing Dr. Bates' report took issue with Dr. Fort and thought it did not result from the splint but was a trophic disturbance. In the early stages a great deal can be accomplished by galvanism and massage. In old stages one must shorten the bones or lengthen the tendons.

F. T. Fort explained that he had used electricity for nearly a year without results.

A. D. Willmoth spoke of the necessity of being guarded in remarks for fear of medico-legal complications. That one should be careful of ascribing such cases to a tight bandage.

C. Z. Aud, as counselor, spoke of the medico-legal aspects of the case and spoke of the neces-

sity of being guarded in remarks to patients and to uphold each other in such cases.

R. A. Bates in closing thanked the members for the discussion and for the assurance that such cases are not due to a tight bandage but a trophic disturbance.

A. D. Willmoth reported, first, a large lipoma with unusual features and showed pictures.

Second, Hydatid Cyst of Liver.

Third, Cholecystitis Following Typhoid.

W. C. Dugan, in discussing Dr. Willmoth's cases, reported a case where the tumor sprung from the serotum and extended below the knees. Agreed with Dr. Willmoth that he proceeded properly in the case of hydatid cyst and that it was a mistake to attempt to enucleate them.

He thought in cases of cholecystitis with typhoid one should operate in any case despite the fact that the cases seem nearly moribund and that the general practitioner and surgeon should be constantly associated together in order to prevent such cases or see them in the earliest stages.

A. D. Willmoth, in closing, spoke of the giving of urotropin in such cases and found that these cases occurred in spite of its administration.

Herbert Brunner, of Louisville, read a paper on "The Use of Vaccines in the Treatment of Genito Urinary Conditions."

On motion, discussion was deferred till after dinner.

On being called to order after dinner, Dr. Wathen moved that Dr. McChord's paper, being similar to Dr. Brunner's, be read first and the two discussed together. Carried. Before Dr. McChord read his paper Dr. Aud made the report of the committee sent to visit Dr. Bowen who said that he doctor appreciated the visit and sent his love to the society.

C. Z. Aud complimented Dr. Bruner on his paper and thanked him for coming before the society with such a plain and logical exposition of the subject.

O. H. McChord spoke of the cases that were not wholly surgical and not amenable to drugs either, where the vaccines filled a long felt want. Do not have to test opsonic index but rely on physical condition of the patient.

Congratulated Dr. Brunner on his splendid paper.

J. R. Wathen spoke of the triumph of bacteriology in vaccine treatment. Has proved the value of bacteriology. Doesn't believe in indiscriminate dosing with vaccines but cases should be selected. Not favorable in acute cases but the greatest benefit is obtained in the chronic cases.

Cases should be in the hands of men especially equipped for such work.

F. T. Fort and **W. C. Dugan** both endorsed the views of the essayist and thanked him for his paper.

Herbert Brunner in closing, emphasized the

fact that it is not necessary to take the opsonic index in chronic cases.

We do not use vaccines in acute cases because a temporary lowering of the index with a bacteremia might prove fatal.

J. R. Wathen, of Louisville, read a paper on "The Factors that Contribute to the Success in Modern Surgery."

Motion to have as many papers read as possible so that members who had to leave on the I. C., might hear them. Carried.

Guy Grigsby read a paper on "The Treatment of Fractures of the Long Bones."

C. H. McChord opened the discussion of the papers of Drs. Wathen and Grigsby. Thought Dr. Wathen's position well taken and that it was criminal to run patients into a hospital and operate without any preparation. If one expects to get good results in surgery one must give the patients the proper preparation.

Regarding Dr. Grigsby's paper he condemned the unnecessary manipulation of parts to elicit crepitus and putting old patients under a general anaesthetic to establish a diagnosis.

Thought the open treatment was proper and should be used more frequently and it would materially reduce bad results. Also of value in cases of delayed union with interposition of fragments, etc.

Process of repair much slower in ununited cases than in recent ones.

One must put on a firm fixed dressing in order to get good results.

One must have good hospital facilities to get good results.

C. T. Riggs seconded the remarks of Dr. McChord about manipulating the fractures and anaesthetizing old people.

In such cases he thought these cases should be treated for their general condition but otherwise left alone.

Reported several cases in support of such treatment.

G. C. Hall supported the position taken by Dr. Wathen regarding the proper preparation of patients and the undesirability of doing "rush surgery." Thought the general practitioner could adopt certain measures such as thorough cleansing of the bowels and the giving of calomel before the patient left home that would materially shorten the time of preparation at the hospital. In this manner the practitioner and surgeon could work hand in hand to the greater benefit of the patient.

B. J. O'Connor asked Dr. Grigsby if silver wire was not much used?

Ed Smith spoke of the loss of function with eversion as diagnostic of fracture of the neck of the femur and did not look for much shortening at first. Didn't believe in much dressing or apparatus but thought the best treatment was to look after the general conditions and get them up on crutches as soon as possible.

C. H. McChord spoke of the fallacy of not getting bony union in intra-capsular fracture and that it did occur. Didn't believe in letting patients go without any treatment.

Ed Smith maintained that bony union did not occur.

E. J. Strickler, Jr., spoke of the necessity of being properly equipped for doing such work.

Guy Grigsby, in closing, spoke to the point that Dr. McChord made and agreed that manipulation may be harmful and crepitus unimportant. Also that shortening was not at once evident. He advocated plaster dressing in cases in old people in intracapsular fractures and such cases were more comfortable under such conditions. Success depends upon not handling the wound with the hands in open work.

Thought also that plaster was highly important and resented any criticism of its use and that poor results in such cases were due to faulty application. Thanked the society for the kind reception of his paper.

J. H. Hester, of Manfordsville, read a paper on "How to Prevent Tuberculosis."

Bernard Asman opened the discussion of Dr. Hester's paper. In speaking of prevention showed the importance of each individual maintaining his own vitality. Not allowing apparently little things to become grave by neglect. Illustrated the cases occurring around the anal region.

S. N. Willis advocated the teaching of hygiene to teachers and the importance of the teachers being physically O. K.

C. T. Riggs advocated physical examination for both teachers and children and systematic examination of the pupils.

C. H. McChord spoke of the joint troubles in children and thought it due to the bovine tuberculosis from impure milk. Doctors should stand by the health authorities in demanding the testing of all dairy herds and cattle.

J. H. Hester was called to the telephone and did not get a chance to close his paper.

This completing the program the president called for volunteer case reports and a number of members responded, the society being entertained for a considerable time with this informal discussion.

Just before adjournment the following were elected to membership in the society: H. Bronner, B. Asman, Guy Grigsby, Louisville; Chas. H. McChord, Lebanon.

The society then adjourned to meet again in April.

The attendance at the meetings is steadily increasing. Notwithstanding the weather (and a worse day could hardly have been imagined), we had a full and enthusiastic meeting.

Those who were detained this time should be sure and be present at the April meeting.

GAYLORD C. HALL, Secretary.

Mercer—The Mercer County Medical Society

in regular session assembled at the usual hour and place. Members present: Witherspoon, Meredith, VanArsdall, Seay, Rogers, Powell, Strader, C. P. and J. Tom Price.

Neither the President or Vice President being present at the opening of the meeting W. H. Witherspoon was made temporary chairman. The minutes of the previous meeting were read and approved. No papers or clinical cases were presented as this was the regular annual business meeting and the time for the election of officers.

J. Tom Price reported that only one hundred and fifty dollars, so far, had been pledged for the purpose of equipping the operating room in the new hospital. On motion made and carried the chair appointed C. P. Price, C. B. VanArsdall, T. O. Meredith, the President and the Secretary a committee to collect the funds already pledged, and to secure additional funds, if possible, with authority to expend the same for the equipment of the aforesaid operating room in any manner agreed upon by the said Committee.

The election of officers resulted as follows:

President, M. L. Forsythe; Vice President, M. H. Southerland; Secretary-Treasurer, J. Tom Price; Censor for three years, E. L. Strader; Delegate for two years, J. Tom Price.

The following resolution was passed by the unanimous vote of the society, to-wit:

"Whereas it is the intention of certain refracting opticians to introduce a bill at the coming legislature creating a board of optometry and issuing a State license by such board,

"Whereas this would empower men not duly qualified to pass upon the state of a person's eyes, which has resulted in other states which have such laws, in the loss of eyesight as a result of such misdirected efforts, and,

"Whereas such persons are unfitted to make such examinations and assume such responsibility, by reason of their lack of training, be it resolved that we, the Members of the Mercer County Medical Society, unreservedly condemn such legislation as pernicious and harmful to the welfare of the general public as well as violating the spirit, if not the letter, of the already existing Medical Practice Act, and that we earnestly petition our Representatives in the Legislature to oppose such attempted legislation for the reasons set down above."

The society adjourned to repair to the New Era Restaurant for refreshments, oysters, etc.

J. TOM PRICE, Secretary.

Pulaski—The Pulaski County Medical Society held its regular meeting at the office of S. F. Parker to-day, our society meets the second Thursday in each month, on account of the unfavorable weather our attendance was small, only five being present. Several interesting clinical cases were reported.

S. F. Parker reported a case of fracture of the thigh at the junction of the upper and middle

third in a man 72 years old, the location of a fracture at this point on a man of that age being very unusual. Another peculiar feature of the case is the occurrence of traumatic delirium as a result of a man taking only two or three ordinary drinks of brandy daily, sometimes not more than one, the patient never drank to an excess. Dr. Parker also read a paper on adenoids, which was discussed.

Our study club is in a healthy condition, and meets each Monday night, doing the regular post-graduate work as outlined by the American Medical Association.

A. W. CAIN, Secretary.

Russell—The twenty-second annual meeting of Russell County Medical Society, was held in the parlors of the Holt Hotel, Jamestown, December 30th, 1911.

The President, L. D. Hammond, called the meeting to order.

Reading of minutes of last meeting was dispensed with.

Next was the election of officers for 1912: L. D. Hammond was re-elected President; J. B. Tartar, Vice President; J. M. Blair, Secretary; John D. Combest, Russell Springs, J. B. Scholl, Jabez, and W. G. D. Flanagan, Jamestown, were elected Censors for 1912.

The heavy rain prevented several of the country physicians from being present; that is if they had a hankering to be present. Hope we will have a prosperous year for the State society and for the county also and that every doctor in Russell county will join and keep up his dues.

J. B. SCHOLL, Secretary.

Rowan—The Rowan County Medical Society met at A. E. C. Evan's office in Farmers, with President A. Seaggs presiding.

Members present were T. A. E. Evans, A. Seaggs and A. W. McCleese and J. B. Messer, of Freestone, a visitor.

The Secretary, G. C. Nickel being absent, A. W. McCleese was appointed secretary pro tem.

This being the last meeting of the year, the election of officers for the coming year was declared in order and A. E. C. Evans was elected President; A. Seaggs, Secretary; A. L. Blair, Vice President, and T. A. E. Evans, A. L. Blair and A. W. McCleese were elected Censors.

It was moved, seconded and carried that, as there is a vacancy on the State Board of Health to occur and that our beloved brother A. E. C. Evans has been recommended by his State Medical Society to be appointed by the Governor; that the secretary-elect be instructed to draft resolutions, a copy of which is to be sent to the Governor recommending the appointment of Dr. Evans to that place.

T. A. E. Evans delivered an interesting discussion of the hookworm.

J. M. Messer, of Freestone, farther discussed

the subject and gave an elaborate account of an illustrated lecture on "Hookworm Disease" by L. H. South, State Bacteriologist, which he had recently attended in Louisville, which was very interesting and instructive.

A. W. McCleese gave an interesting talk on "Pellagra."

A discussion of "Placenta Previa" was entered into by the Society, (a number being present who had a case under observation.)

J. B. Messer, who had just been before the State Board for examination, whom we hope will soon be eligible to membership in our society, was invited to attend our meeting in the future, as he helped out in the discussion adding much to the life and instructiveness of our meeting.

The next meeting was appointed to be held at the office of Dr. Blair, in Morehead, January 24, 1912, at which meeting the payment of dues is to be made a special feature.

A. W. McCLEESE, Secretary.

Washington—The Washington County Medical Society met in Springfield on January 10th, with the following physicians present: W. W. Ray, M. W. Hyatt, W. E. Crume, W. S. Gabhart and J. H. Hopper. President W. E. Crume was in the chair. The minutes of the December meeting were read and approved with a slight correction. After regular business **M. W. Hyatt** read a paper entitled "The Early Diagnosis of Phthisis Pulmonalis." This was one of the very best papers ever read before this society and was discussed by **W. W. Ray**, **Hopper**, **Gabhart** and **Crume**, and in closing by **M. W. Hyatt**, who mentioned two cases by way of illustration. Several of the out of town physicians spoke of the needs of the laity for more enlightenment on the subject of tuberculosis before they would be able to reach a large per cent. of these early cases.

A. Y. Hatchett, who was on the program for a case report, received a very urgent call and had to leave town.

W. E. Crume reported a case verbally which was very interesting as the course and diagnosis being doubtful. This ended the regular program but **M. W. Hyatt** asked to be heard and in behalf of the society presented the secretary, in a neat little speech, with a very fine fountain pen. The secretary recovered from his surprise in time to express his very great appreciation of so useful a present.

The meeting was then adjourned.

J. H. HOPPER, Secretary.

Distressing urinary symptoms in bladder tuberculosis are fairly presumptive evidence of mixed infection, due to instruments or other agents.

The cancerous prostate is immovably fixed in the pelvis by reason of the extension of the malignant process into adjacent tissues.

THE FORUM

I write you for information regarding the mosquito and malaria. I note that some of our late authors take the position that the mosquito is the sole cause of malaria. Now since we have had such a great army of mosquitoes, in fact almost ten times more than for years and so little protection from their deadly bill and have suffered almost unbearable pain from their bites, as well as the mental pangs that we have endured thinking of the rattling of our dry bones that should take place when that awful ague chilled our frame, the unbearable headache and burning fever, etc., that was soon and so sure to follow, imagine our surprise at this late date, November 16th, and almost no chills, no malarial fever scarcely at all. The healthiest summer and fall that we have had for years. We had a dry May and June, but July and August were fairly seasonable. Can it be that the dry hot weather weakened the poison of the mosquito, or what is the matter and when shall we expect results. I am anxious to know. Hurriedly and timidly.

A. P. HENDLEY.

BOOK REVIEWS

Hospital Management—A hand-book for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work. By Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse;" "Primary Studies for Nurses;" "Clinical Studies for Nurses." 12mo. of 488 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$3.00 net.

This is just the work hospital superintendents, training-school principles, physicians, and all who are actively interested in hospital administration have long wanted. It is a work with practical as its keynote. It presents the subject in the light of the most recent advances along the lines of modern hospital construction and management. Each chapter has been written by one specially fitted to write upon that particular phase of the subject; and Miss Aikens, herself a contributor, has shown great editorial ability in the arrangement of the several subjects treated. Every phase of hospital management is taken up and illustrated most profusely. Some of the most important chapters are: The Superintendent, the Medical Service of a Hospital, the Furnishing of a 100-Bed Hospital, Hospital Incomes and Management of Trust Funds, Hospital Book-keeping, the Hospital Store, the Kitchen, the Laundry, Surgical Supplies, Drug Room, the Training-school, Out-patient Department, and Laboratory. As a book on hospital economics it has no equal.

LEGISLATIVE INVESTIGATION NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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FEBRUARY 15, 1912

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SOMEWHAT PERSONAL

To the Medical Profession of Kentucky, Greeting:

I am just in from Frankfort and it swells my heart with pride to be able to assure you in full confidence not only that we will win our fight on every point, but that expressions from senators and representatives on every hand convince me that no previous General Assembly has ever so readily recognized the far-reaching character, magnitude and unselfishness of the work which the rank and file of our profession are doing every day to protect the health, lives and homes of the people, and to make living better worth while.

As is now well known to both legislators and the profession, the attack on us had its origin in the pique of one man, a good fellow, by the way, who should not be censured for exaggerating his own importance and grievances and in mistaking the remedy for the latter, and would have attracted little attention except for the dissatisfaction which had arisen in the first weeks of the operation of the vital statistics law in a few country districts.. This was remedied by a very simple amendment, but before this could be worked out and explained the League of Medical Freedom, the vast interests engaged in poisoning and robbing the people by the manufacture and sale of adulterated foods and drugs, Charley White Moon and other fake and quack combinations in and out of the State got into the fray and deluged the desks and waste baskets of legislators with the class of literature with which all are so

familiar from its use in these fights against Dr. Wiley, Senator Owen and the National Department of Health, school inspection, vaccination and all similar efforts to protect the public health, but so filled with abuse and misrepresentation as to be its own best antidote.

No other state in the Union has such a profession as ours, and I have never before been so proud to represent you. Knowing from the outset the disreputable forces which would get behind the movement, I realized that the attack could not long remain personal but would turn upon the profession and the excellent system of laws you have secured by years of patient, persistent effort. And most nobly did you and the intelligent people of all classes respond to the onslaught. Not only were the societies and profession in almost every county active, but the Federation of Women's Clubs, Boards of Trade, Teachers and Farmers' Institutes, and leading citizens in every section were equally so.. I wish you could read the thousands of telegrams and letters which came spontaneously from the most unexpected sources outside of the profession and could have seen the scores of jurists and other leaders of public opinion who came in person with proffers of help.

It was worth all the time and inconvenience and, one and all, I thank you from the bottom of a heart which will always beat as true to you as yours does to me.

J. N. McCORMACK.

STATE BOARD INVESTIGATION

Acting under the unanimous instructions of your Council, as the spokesman of the Kentucky State Medical Association and the defender of the 3334 registered, practicing physicians of Kentucky, your Secretary submitted the following proposition to the Committee on Kentucky Statutes of the General Assembly of Kentucky before which Mr. Herrington, the Representative from Madison County, has been investigating the State Board of Health:

"Gentlemen, you have seen our JOURNAL. It reaches every doctor in Kentucky. I am requested by our Council to ask that you instruct your stenographer that every question and answer asked here be faithfully transcribed, and that we be given a copy, and, without expense to the public treasury, we will print an edition which will reach every nook and corner of the grand old Commonwealth, and we will ask that if there be any man, woman or child who has aught to add to this investigation that will show any fault in our health or medical laws or any way by which more lives can be saved, that he speak now. We will get the edition out at once, Mr. Chairman, so that you may hear what you can while the General Assembly is yet in session. If there were anything wrong, Mr. Chairman, the Association of which I am proud to be spokesman, would have known it and would have demanded of you that it be righted. All we now ask is that you expose the motives of the few small men who instigated this investigation, that you know everything worth knowing about our work and our relations with our profession and the people, and that you then make such a report as will continue for us the confidence and moral support of the General Assembly."

The impression created through the newspapers by Mr. Herrington has been that this is an investigation ordered by the Legislature. The facts are as follows: Mr. Herrington has introduced a bill, House Bill No. 74, which repeals that part of the present law which empowers the Governor to select the members of the State Board of Health from lists of three nominations selected by the various state societies for each vacancy. This law if passed, would restore the status before the present law was enacted in 1904, when appointments on the State Board were frequently made as rewards for personal or partisan services. No other body is so well qualified to

select health officials as the state medical societies of the various schools and this law has the approval of practically every physician in Kentucky as well as of every informed publicist and layman.

Upon Mr. Herrington's request this bill was referred to the Committee on Kentucky Statutes one of the busiest committees in the House, and they have been able to devote such short hours to the hearing that to those interested it has seemed to drag along almost interminably.

On the same day Mr. Herrington offered a resolution empowering any committee to place persons under oath and subpoena witnesses about any bill. Under this omnibus authority he had the following subpoena issued:

"THE COMMONWEALTH OF KENTUCKY.

"To the Sargeant at Arms of the House of Representatives, Greeting:

"I command you to summon Dr. T. R. Moore, of Frankfort, Kentucky; Dr. Lillian H. South, of Bowling Green, Kentucky; Dr. J. N. McCormack, of Bowling Green, Kentucky; Dr. A. T. McCormack, of Bowling Green, Kentucky; Dr. J. C. Mitchell, 1200 West Market Street, Louisville, Kentucky; Dr. C. W. Kavanaugh, Lawrenceburg, Kentucky; A. J. Parlin, Lawrenceburg, Kentucky; W. F. Lillard, Lawrenceburg, Kentucky; Dr. H. S. Kellar, Frankfort, Kentucky; Dr. John South, Frankfort, Kentucky; Judge J. H. Polsgrove, Frankfort, Kentucky, to appear before the Committee on Kentucky Statutes of the House of Representatives of Kentucky, at the parlor of the Capital Hotel in Frankfort, Kentucky, at eight (8) o'clock P. M., on Thursday the 25th day of January, 1912, to answer, under oath, any questions that may be propounded to them on any matter, which is deemed by said Committee to be a subject of proper inquiry, regarding its consideration of House Bills Nos. 74 and 93, which are now pending before said Committee, and to warn each and all of said witnesses that upon their failure to appear, they will be cited for contempt of the orders of the House of Representatives of Kentucky, and the Sargeant at Arms will make due return of this summons to me.

"Witness Harry A. Schoberth, Chairman of Committee on Kentucky Statutes, at the Capital, Frankfort, Kentucky, this 19th day of January, 1912.

"H. A. SCHOBERTH,

"Chairman."

A systematic campaign was begun through the public press charging that our entire Association and its splendid work were but the corrupt creature and political machine of Dr. J. N. McCormack, whose honorable career from 1883 in the service of the profession and people of Kentucky was rewarded by the charge from Mr. Herrington that he was "the smoothest, most plausible, most persuasive and at the same time, most powerful lobbyist ever known." He needs no defense to the physicians of Kentucky nor of the United States.

Of the witnesses summoned at Mr. Herrington's instance, only Drs. J. N. McCormack, John G. South, Lillian H. South, A. T. McCormack, J. C. Mitchell, John G. South and H. S. Keller have been examined.

It was held by the Chairman of the Committee that the burden was upon the State Board of Health to show that it had conducted itself properly. Every one was excluded from the room but newspaper men and the members of the Legislature. This is our only excuse for presenting to the profession this incomplete statement of what occurred in the Committee room. It is all taken from the newspapers. They quite naturally give most notice to the scraps while we are most interested in the facts. The following is the fullest account by the veteran reporter, Will S. Kaltenbacher, in the Louisville Times:

REVIEWS LIFE WORK ON WITNESS STAND

**Dr. J. N. McCormack, Secretary of
State Board of Health Testifies
Before House Committee On
Kentucky Statutes.**

Denounces Effort to Inject Politics

(By Will S. Kaltenbacher.)

Frankfort, Ky., Jan. 25.—Three witnesses were examined at the meeting of the House Committee on Kentucky Statutes which met in the parlor of the Capital Hotel last night to give a hearing on the Herrington bill providing for a change in the appointment of the members of the State Board of Health and placing them in the hands of the Governor. The witnesses heard were Dr. J. N. McCormack, of Bowling Green, secretary of the State Board of Health; Dr. D. M. Griffith, of Owensboro, and Dr. L. S. McMurtry, of Louisville. The meeting lasted from 8 until 1:30 o'clock, all per-

sons being excluded except the members of the Legislature and newspaper men.

The Committee on Kentucky Statutes is made up as follows: H. A. Schoberth, chairman; B. S. Wilson, W. V. Perry, S. F. Reed, J. A. Polin, J. W. Holland, W. A. Price, M. C. Kirk and W. S. Smith. It is planned to resume the hearing this afternoon. Dr. Lillian South, the State Bacteriologist, was allowed to file a statement and will be cross-examined to-day.

Makes Strong Witness.

It was conceded on all sides that Dr. McCormack, who has been at the head of the State Board of Health work for over thirty years, made a strong and most convincing witness for his side of the question. He produced all the records of the State Board of Health since its establishment thirty-three years ago and gave an exhaustive account of what had been accomplished in this time. Dr. McCormack denounced the efforts to place the State Board of Health back into a political atmosphere and declared he had always strived to keep the body divorced from politics and had succeeded under the present law. Dr. McCormack resented some of the questions propounded to him, especially one asking him had he ever "lobbied" with the Legislature in the interest of the railroads or other interests. He replied that "there were some questions no gentleman should ask and no gentleman should answer."

Vital Statistics Law.

Dr. McCormack strongly defended the vital statistics law passed at the last session of the Legislature. He said the State Board of Health now had the record of 63,000 births and 32,000 deaths in Kentucky during 1911, and that these and subsequent records would prove of incalculable benefit in reducing the number of preventable deaths. He said the law was not yet fully understood.

Dr. McMurtry and Dr. Griffith supported Dr. McCormack in their evidence and paid him high tribute for his work as a health expert. Both declared that Dr. McCormack had never attempted to dominate either the State Board of Health or the State Medical Association.

Dr. J. N. McCormack's statement will be found elsewhere in this issue.

Mr. Dunlap, in the Frankfort News-Journal gives the following account of this first session:

QUESTION STIRS IRE

Dr. J. N. McCormack in Tilt With Representative Herrington.

AT THE HEALTH PROBE

Secretary Resents Insinuation That He Worked For Railroads.

Investigation by House Committee Draws Many Physicians To Frankfort For the Day.

Investigation of the Kentucky State Board of Health, which was begun last night in the parlor of the Capital Hotel, by the House Committee on Kentucky Statutes, was marked by a tilt between Representative L. B. Herrington and Dr. J. N. McCormack, Secretary of the Board of Health. Dr. McCormack resented what he took to be an insinuation that he had "lobbied" for the railroads, while in Frankfort in the interests of measures affecting the Board of Health.

Dr. McCormack was on the witness stand and was being examined by Mr. Herrington, who had asked a large number of questions relating to Dr. McCormack's absence from Kentucky while acting as secretary of the Board.

"Do you ride on a pass, Doctor?" asked Mr. Herrington.

"I do, sir."

"On what roads?" asked Mr. Herrington.

"On all that will give me passes. I save the State just that much money by riding on passes."

"Do you use a Pullman pass?" Mr. Herrington asked.

"I do, and that is that much money saved to the State."

Investigate Cars.

Mr. Herrington then asked if it was not a fact that, as executive officer of the Health Board, it was his duty to investigate Pullman and

railroad cars. Dr. McCormack explained that it was his duty, and that the railroads were forced to do more in this than in any other State, the Kentucky Board making the first move to require disinfection of all cars.

"Did you ever perform any service for the railroads while you were here in Frankfort in the interest of the Health Board?" asked Mr. Herrington.

Dr. McCormack grew angry, as was shown by his face, and said:

"Never, sir. That is an insinuation that I will not permit."

Harry Schoberth, chairman of the committee, said that no personalities would be permitted in the committee meeting. Dr. McCormack said:

"I did not start the personalities, but I will not permit some questions to be asked."

Judge Lewis McQuown, attorney for Dr. McCormack, then objected to the line of questions that was being asked, stating that he thought them irrelevant and improper. Mr. Herrington then explained that he had meant no offense by his question, and was merely trying to get at the facts as quickly and simply as possible. The incident then ended, and Mr. Herrington continued his questions.

On Stand Long.

Dr. McCormack was on the stand for several hours, and answered a large number of questions on various subjects pertaining to the methods of the State Board of Health in the keeping of accounts and in the management of its affairs. He said money was paid out on vouchers which were issued by him, countersigned by the President. Dr. McCormack stated, in answer to questions, that during most of the thirty years that he has been coming to Frankfort during sessions of the Legislature, he has paid his own expenses, but since 1900 the Board has been paying these expenses. The vital statistics act was gone into carefully.

The following version is that of Mr. Moss in the Cincinnati Enquirer:

BOTTOM**Falls Out of Quiz Into Conducting of Kentucky Health Board.****Secretary McCormack Is Placed on Grill.****Says He Gave Up Big Salary To Help State.****Frankfort Flooded With Physicians To Testify for Noted Doctor.**

Special Dispatch to the Enquirer.

Frankfort, Ky., Jan. 24.—In the presence of nearly one-half of the members of the General Assembly Dr. J. N. McCormack, of Bowling Green, Secretary-Treasurer of the State Board of Health, to-night testified before the probe committee of the House as to the manner in which he had conducted the affairs of his office since 1883.

He was charged by Representative L. B. Herrington, of Richmond, as being "the smoothest, most perfect machine to operate in this state." He also was accused of using his position to appoint members of his family to places of pecuniary profit; of controlling the State Board of Health, and dominating every County Board of Health of Kentucky.

Representative Herrington has a measure before the House to abolish the State Board of Health as it is now constituted, and provide for a Board of Health to be appointed at the discretion of the Governor. Physicians from every part of the State were here to testify for Dr. McCormack.

The meeting was held in executive session, except to the members of the Legislature and the press.

Looked Upon as Failure.

The effort of Representative Herrington was looked upon as a failure. Dr. McCormack testified that he had not taken any steps to arouse public sentiment in his favor since the probe resolution passed the House, and has in his evidence a protest against this investigation signed by 17 of the 22 physicians in Mr. Herrington's home county.

One of the features of the probe was the evidence of Dr. McCormack that he receives as his salary from the State but \$1,200, the same salary he pays his stenographer. Having

been a very fortunate business man, Dr. McCormack testified that he could afford to carry on the work independent of the salary he gets from the state.

He said he recently resigned the position of Organizer of the National Medical Association at a salary of \$6,000 a year in order to give all his time to health work in Kentucky, and, he said, "to save the babies, women and men of the state."

Mr. Herrington sought to show that as Organizer for the Medical Association, Dr. McCormack was a "lobbyist," asking frequently if he did not spend much of his time before Legislatures of other States, and if he was not more than one-third of his time in Washington when Congress was in session.

Defies His Accuser.

All of this Dr. McCormack denied, and defied Mr. Herrington or any person to produce evidence he is or ever had been a "lobbyist."

Dr. McCormack testified that he had written the laws and constitution for every state and every county medical association in the United States. Mr. Herrington asked if he did not ride on railroad passes, and when he received the answer from Dr. McCormack that he did, Mr. Herrington asked if he had helped railroads to put over favorable legislation.

Another question along this line would have required the presence of the Sargeant-at-Arms. Dr. McCormack said he rode on passes to save the State money. He testified that he had been elected to his position unanimously for 33 years.

Senator B. F. Tichenor, of Daviess county, said that 99 out of every 100 physicians in the State would come here to fight for Dr. McCormack if necessary. The purpose of the probe is to have repealed the vital statistics bill, calling for an annual appropriation of \$30,000, passed by the last Legislature.

Mr. Montgomery in The Louisville Herald gives the following account of the session of Jan. 30:

PRAISE FROM COLLEAGUE.**Dr. Keller Says McCormack Is an Efficient Officer.**

Frankfort, Ky., Jan. 30.—Dr. J. N. McCormack, of Bowling Green, Secretary of the State Board of

Health, to-day, was styled "the best health officer in the United States," by Dr. H. S. Keller, of Frankfort, who served on the board for four years. Dr. Keller made the statement while testifying before the subcommittee on Kentucky Statutes, which is trying to discover if Dr. McCormack has built up a machine within the board that he might perpetuate himself in office.

Only one other witness testified to-day. He was Judge B. C. Tarter, of Pulaski county, who told of the good work done by the county auxiliary. He declared the State Board of Health was free of politics.

Representative L. B. Herrington asked Dr. Keller if Dr. McCormack was a politician, "I should not classify him as such," was the reply. Asked if Dr. McCormack's efforts in securing legislation affecting public health had been effective the witness replied: "Best ever."

Dr. Keller said the secretary's authority over the State Board has been supreme until about a year ago when four members got together and decided to support him, not because of Dr. McCormack's having usurped that authority, but because the law specified that the responsibility of conducting the board's affairs rested with the full membership of the board. The hearing will be resumed to-morrow.

NOT ONE SINGLE MATERIAL STATEMENT HAS BEEN MADE BY ANY WITNESS WHICH WAS NOT A MATTER OF COMMON KNOWLEDGE TO EVERY PHYSICIAN OR OTHER PERSON IN KENTUCKY WHO HAS READ THIS JOURNAL AND THE REPORTS OF THE STATE BOARD OF HEALTH.

One medical witness has been produced by Mr. Herrington. This was Dr. J. C. Mitchell, of Louisville, who testified that he had been appointed on the State Board as an eclectic after the adjournment of the last session of the Legislature, and that Governor McCreary had displaced him and reappointed Dr. Geo. T. Fuller, of Mayfield.

The unanimity of the medical profession of the State has surprised no one but Mr. Herrington. His statements that the medical profession of Kentucky was or could be dominated by any one was the cause of great surprise to the physicians who heard of it.

Statements from 29 of the 35 registered physicians in Madison County, of which Richmond is the county seat, and where Mr. Herrington is said to live, is also printed under the head of Official Announcements.

VITAL STATISTICS AND OPTOMETRY LEGISLATION.

A crisis has arisen in the public health and medical organization movement in Kentucky. Under the thin disguise of an attack upon your officials, a dangerous fight is being made all along the line against every advance secured in thirty years by the profession in their fight for pure food and drugs and their warfare against disease. At the beginning of the session of the General Assembly a number of bills repealing the vital statistics law were introduced. These were, in the main, introduced by members who had come in contact with some defect in the law, and the honest opposition to this most important law has been met by a substitute for House Bill 28 and Senate Bill 34, prepared and originated by the Committees on Public Health and reported unanimously. This substitute provides for several deputies in the larger country registration districts, that undertakers, carpenters who make coffins and county officials may be made deputy registrars so that no funeral will be unnecessarily delayed, and that a burial permit may be issued in the country upon the filing of a promise to deliver a complete death certificate within five days from the date of death.

The second element in the attack is the so-called optometry bill, House Bill No. 90, which will make doctors out of spectacle vendors by act of the General Assembly quite regardless of training or fitness. This attack upon the medical law is nation wide and identical bills, prepared by some central syndicate have been met by vetoes by such Governors as O'Neal of Alabama, Wilson of New Jersey, Harmon of Ohio, and Deneen of Illinois.

Dr. J. M. Ray, of Louisville has an eye which he has recently removed for cancer, for the cure of which three different pairs of glasses were fitted by one of the men promoting this bill at \$25 per fit.

The fitting of glasses for errors of refraction without the use of drugs or medicines is a branch of the practice of medicine, and, in order to settle this question for all time to come the following has been prepared and will be offered as a substitute for the Optometry Bill:

"An Act to Amend an Act entitled 'An Act to Prevent Empiricism in this Commonwealth,' approved March 18, 1904.

"Be it Enacted by the General Assembly of the Commonwealth of Kentucky, that 'An act to prevent empiricism in this Commonwealth,' approved March 18, 1904, be and the same is hereby amended by the addition of the following section.

"Section 1. Any person offering to relieve errors of refraction or defects of eyesight in the human eye by the fitting of glasses without the use of drugs or medicines shall be known as an optician. The State Board of Health shall issue a certificate to any reputable optician who desires to practice in this State who has passed a successful examination before it in the branches of medicine as taught in reputable optical colleges, who shall possess a diploma from a reputable and legally chartered optical college in some state in this Union; and the State Board of Health shall, through one of its members or inspectors, examine any legally chartered optical college in this Union upon application of any interested citizen of this State, and, after due notice and hearing, decide whether said college is reputable, and such inspection and report may be repeated from time to time at the discretion of the Board; Provided that nothing in this section shall be construed to apply to persons licensed to practice medicine in this State, or to give to any optician or other person the right to attach the title M. D., surgeon, doctor, physician, oculist, ophthalmologist, eye specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects or injuries of the human eye, or to use drugs or medicines in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

The above amendment is really included in Section 7 of the present law, but this will make it clear, and it is so fair that there can be no objection raised to it by any educated optician, and its purpose is to protect the people only from those whose ignorance and lack of training endanger the eyesight of our people. The examination would be conducted as at present with the identity of the applicant unknown to the examiner who grades his papers, and a license issued after such an examination would be of real value to its holder as a voucher for his competency.

If every physician will make it plain to his Senator and Representative that the above substitutes will meet and settle real problems, the situation will soon clarify itself. So many bills have been introduced that it is essential that when you write, you ask support for the committee substitute for House Bill 28 and Senate Bill 34, which are the vital

statistics bills, and for the "State Board of Health Examination Substitute for House Bill 90." These bills will probably be voted upon this week and it is essential that every one act at once.

OFFICIAL ANNOUNCEMENTS

The following is from members of the Madison County Medical Society:

To Dr. J. N. McCormack, Greeting:

We, the undersigned physicians of Richmond and Madison County, wish to express our confidence in you personally, and our appreciation of your services to the Profession of the State and Nation, and, especially, do we condemn the action of our representative, Mr. Herrington, as being uncalled for and tending to bring discredit to the Profession and State.

MURISON DUNN,
T. J. TAYLOR,
H. G. SANDLIN,
R. H. COWLEY,
D. R. BOTKIN,
L. A. DAVIS,
A. H. BAKER,
ROBT. C. COOMER,
P. CORNELIUS,
J. H. RUTLEDGE,
J. W. SAMS,
C. J. BALES.

The following is a statement signed by 18 of the registered physicians who are not members of the Madison County Medical Society:

To Dr. J. N. McCormack, Greeting:

We the undersigned physicians of Madison County, Ky., have not in recent years been members of the Madison County Medical Society, for reasons well known by our profession and people, but we have nevertheless always been and shall continue to be interested in the protection of our people from the ravages of disease. We believe that the officials chosen to administer its health laws should, when their duties are faithfully discharged, receive the endorsement and support of the good citizens of this great Commonwealth. We well remember when you were with us a number of years ago in a small-pox epidemic, then prevailing in our midst, and recall how you so heroically fought this terrible disease, using your own money to help people who were afflicted with the disease. We know how you have uniformly discharged your duties all over the State, doing much to advance our profession and protect the health of the people, and we commend you in the highest terms for what you have done. The profession and people are deeply

indebted to you and have now and always have had the highest confidence in your integrity and honesty of purpose and we feel sure that a fair investigation into your motives and methods, at Frankfort, or elsewhere, will reflect credit on you and the entire profession, and will show that you are interested alone in the cause of the people. We deeply deplore the attack now being made on you at Frankfort and we repudiate this effort to cast reflection on such a worthy official as you have always shown yourself to be.

We desire to state emphatically that our representative does not reflect the wishes and feelings of our people and profession when he assails you as he has done at Frankfort within the last few days. We feel that he has been badly advised. Our people endorse you and everything you have done for many years past, in the discharge of your official duties. We have unshaken confidence in you.

CHAS. S. HOLTON,
CHAS. H. ROBINSON,
ROBERT COMBS,
T. J. BERRYMAN,
J. W. HARRIS,
J. B. SETTLE,
F. C. COX,
B. H. GIBSON,
N. A. BAILEY,
J. B. MILLION,
R. M. PHELPS,
JAS. W. SCUDDER,
H. R. GIBSON,
W. M. GIBSON,
WILLARD LAKE,
H. C. POPE.

DIGEST OF HEALTH BILLS.

The joint meeting of the Council and Legislative Committee of the Kentucky State Medical Association, after careful consideration, desire to call the attention of the medical profession and people of Kentucky to the following bills:

House Bill 74, putting the State Board of Health into politics is a bad bill and should be defeated.

House Bill 90, making doctors by statute out of spectacle dealers is ridiculous. As well make dentists of blacksmiths by law.

House Bill 28 and Senate Bill 34. The Health Committee in both House and Senate have reported a substitute for these bills which removes all the objectionable features of the Vital Statistics Law and retains all the valuable points. No funeral will be unnecessarily delayed unless crime is suspected. The substitute should pass.

House Bill 235 by Francis Douglas, of

Boyle County should pass. It is a good bill. It is an Act creating a commission to be known as Kentucky Board of Tuberculosis Commission, defining its powers, appropriating \$15,000 annually to be used by the board, and authorizing the establishment of districts, consisting of one or more counties, and authorizing and providing in such districts for the erection of a sanatorium for the treatment of tuberculosis, and further authorizing county and district taxation for the purpose of making an appropriation for the necessary land and erection of buildings, and an annual appropriation for the maintenance of such sanatorium.

Senate Bill 107, an Act, presented by Senator W. E. Dowling, of Anderson County, prohibiting the use of public drinking cups, is a good bill and should pass.

E. RAU, Chairman.

By Order of the Council,

STATEMENTS SUBMITTED

To the Committee on General Statutes of the General Assembly of Kentucky in the Investigation of the State Board of Health.

STATEMENT OF DR. J. N. McCORMACK.

Mr. Chairman and Gentlemen of the Committee:

In order to economize in time, with your permission, I present to you the minutes of the State Board of Health, showing its operations in detail from its creation over a generation ago to the last meeting held in this hotel on the 10th of the present month; the Treasurer's books and numbered vouchers for each item, accounting for every dollar appropriated and expended by the Board since I became its Secretary, October 1, 1883, and containing for each year a report of the committee appointed to audit the books and vouchers, certifying to their correctness at the bottom of each annual statement. These minutes and financial transactions have been published for each biennial period and widely distributed.

When the enlarged appropriation became effective January 1, 1911, after discussion with the Board, and conference with the present and former State Examiners, it was decided that the method of keeping the financial records could be improved and extended, and I present to you a full detailed, numbered statement of each expenditure under the appropriation of \$30,000, with a voucher-check receipt and itemized account corresponding to each entry, and indicating the department for which the expense was incurred, du-

plicates of these voucher-checks having been filed with the Auditor of Public Accounts, as required by law. Attached to this financial statement will be found the report of the Potter-Matlock Trust Company, employed to audit the books and vouchers, and that of the Auditing Committee of the Board appointed for the same purpose. All of these itemized statements and other matters will be embraced in the forthcoming volume of transactions and open to every citizen. In 1886 an appropriation of \$6,000 was made to stamp out pleuro-pneumonia in cattle. Only \$3,000 was drawn out, the Board stamped out the disease for \$2,480, \$520 was covered back into the Treasury and the other \$3,000 remains there available for a similar emergency. So in 1893 an emergency fund of \$10,000 was created against cholera, yellow fever or other exotic pestilence. Upon the approval of the Governor \$2,000 of this was used during the yellow fever epidemic of 1898, and \$8,000 remains in the Treasury to be used with the approval of the Governor if the State should be seriously threatened by any great epidemic disease.

In this connection it may be of interest for you to know that the Board was created upon the recommendation of Governor McCreary in 1878 to meet the emergency of an epidemic of yellow fever then raging in the south, and that, before the appropriation became available, with funds raised upon the personal credit of its members, who served then, as now, without compensation, it was in the field fighting to protect the health and lives of our people. For the first twenty-two years the total appropriation for the work was \$2,500, after which, until last year, it was \$5,000. During all these years the work of the Board has ranked well up with those of other states having five and ten times the funds. This was only possible because the members of this Board and 695 members of county and city boards of health served without compensation except for their executive offices and because I furnished the Board an office in my residence, with heat, light and janitor free of cost, as our hospital is now doing for one of the laboratories, and for years my wife and son, and in times of emergency, every servant in the household, assisted in the clerical and stenographic work, and in getting out the enormous mail, without any or at only a nominal cost. At different times when my son was away at college, Walker D. Hines, now at the head of the Sante Fe system, and McKenzie Moss, now Circuit Judge in my district, took his place in the morning and evening when not in school for ten dollars a month. For all these years my son and I, long before he was a doctor and since, were on the border where pestilence threatened from the south,

and in the counties in every section during smallpox and other epidemics, our overalls were covered with scabs and pus while we helped to carry the sick to the improvised hospitals and to bury the dead, a service which most of you would not render for all the revenues of Kentucky.

More unpleasant than all of these things, and because no one else would do it, I haunted these legislative halls year after year, often classed as a lobbyist by those who did not know any better, but most nobly supported by my profession in every school of practice, as I am now begging that authority be given my Board and profession to protect the people from pestilence and impure food, drugs and quackery, and so successfully that the laws on most of these subjects written by me, are used as models in other states.

At the outset, the State Board of Health was a purely political body, pull having more weight than fitness, and while excellent men personally, many of them had little training and often could not afford the time for its duties. One Governor went so far as to exact a pledge of each appointee that he would vote to put the health and lives of the people of Kentucky in the hands of one of his political friends, and only failed because this most worthy physician declined to accept the position when he knew what would be required of him. The county boards were then appointed by the fiscal courts and were little more than farces. All this became such a recognized evil that representatives of all schools of practice agreed upon and secured the passage of the present law, which put the selection of members upon a scientific basis, with the result that the men now composing the Board will bear favorable comparison with the Court of Appeals or any other body of men in the State. On account of his wisdom in public affairs, and the interest he has always taken in health matters, the present Governor could be safely trusted to make nominations on the Board without restrictions, but this was intended, and was agreed upon as a permanent provision, because sad experience has taught us that the average governor was no better qualified to select members of the Board than the average doctor would be to select judges of the highest courts, and that it would be just as reasonable to put such authority in his hands. The same principle applied to the appointments of county boards of health by the fiscal courts, and this will be realized when the people come to know that health and life and the officials who protect them are more important than property interests and the courts which look after them. The county boards are now selected upon merit alone. They serve without compensation and yet the spirit

of the profession is such that there has never been any trouble in getting the best men to serve. I hand you the lists of these boards for thirty years that you may study them and ascertain if they are men who could be dominated by any man, and that such an insinuation is a reflection only upon those who inspired it. To return to this vicious system, discarded because it was vicious, and put us back in the pool of politics would be a step backward which would and ought to be condemned by all right-thinking people who have no personal friend or end to serve, and I have no fear that it will ever be done.

When the \$30,000 appropriation was secured it was at once decided to try to do twice or thrice that amount of work with it. With this end in view competitive bids were secured on all laboratory and other equipment and supplies, much of the scientific apparatus coming from abroad duty free, often with a saving of 50 per cent or more. The heads of departments and employees were put upon minimum salaries and stimulated to do the best that was in them by promise of better compensation as soon as all the cost of equipment was paid. All of them have made good, and the bacteriological department has saved more to the people on diphtheria and rabie serums alone than its entire cost for the year, and without adverse legislation the good to come to the homes of our people from these activities is beyond computation. We have the best equipped laboratories in Kentucky for their purposes and scope, and I ask you to visit and inspect them, as the health committees of both houses have been asked to do.

A few men have tried to dominate Kentuckians, but no one has ever succeeded. I hold no office in the State Medical Association, and have not for twenty-eight years when I was its President, and my opinions have weight with my profession only because of what I have done for it. This hand has written every health and medical law on our statute books, and is in use as a text book in our normal and hundreds of district and high schools, and almost every health circular and leaflet. I led the organization movement in every county, pleading for and securing harmony where there had been discord, and bringing together all schools of practice. Completing the organization of my own State nine years ago, after consultation with the Board, and upon its advice that the Board's prestige, and my usefulness would be greatly increased thereby, I accepted the position as Chairman of the Committee on Organization and health lecturer of the American Medical Association for the United States, and, in that capacity, have inspected and spoken upon

health conditions in ever principal city and county in this country. In doing this my engagements were such that I only missed two meetings of the Board and could always be here should an epidemic occur. Upon the completion of the laboratories, the possibilities for good to our own people so impressed me that I resigned this position, with its salary of \$6,000, over the protest of the National Association, to devote the remainder of my active life to the improvement of health conditions in my native State, upon the same salary paid my stenographer, and which I have never asked to be increased in all these thirty years. Is it surprising that the profession are my friends, and that they consider an attack upon me as being made upon themselves? But it is charged that the profession is not for me. In order to put this to the test I now propose that if any state association, homeopathic, eclectic or osteopathic, or any county society, including Mr. Herrington's, and there is no better one, will ask it, I will join in the request for the referendum vote provided on all matters by our Constitution, and will cheerfully resign if 90 per cent. of all the doctors do not support my policies and work.

In conclusion, nearly thirty years ago, by a unanimous vote, I was made the executive officer of this Board, and this has been done at regular intervals since until two weeks ago, upon motion of the homeopathic member, seconded by his osteopathic colleague, I was again elected unanimously for a term of four years. In all these years my life has been an open book both to the profession and people, and I have done my duty to every interest as God gave me the capacity to see it. This is the first, and, with the fair and impartial hearing I know you will give, I expect to make it the last, time any man will ever question my motives, my capacity or my integrity. My respect for this Committee, my profession and for myself has kept me from trying this issue in the public press, as my traducers have attempted to do. Most of you are strangers to me, and, since the day this question assumed a personal phase, I have spoken to no one of you on the subject, greatly interested as I am in other bills before you, and have asked no assistance from any county board of health or physician, or written or inspired a letter to one of them. I do not need the pittance of a salary, ask no man's favor and would despise myself if I accepted any man's sympathy. I only court the full, fair investigation which I know you will give me and the Board, the standing of which has become almost as dear to me as my own, and then—justice.

STATEMENT OF D. M. GRIFFITH.

I was questioned in detail about the organization of the State Association particularly as to whether there was any politics in same and whether or not it was dominated by J. N. McCormack and being fully informed by virtue of yearly attendance at its meetings, I could conscientiously and truthfully state that politics was completely ousted by the reorganization that took place some ten or twelve years ago and that neither of the McCormacks had ever, at any time sought to influence my vote or any man with whom I was acquainted either for or against any man or any measure. I was also asked, after leaving the Winchester meeting, why I went back. I stated I was requested by 'phone or telegram to come. I was asked who made that request, I stated, which was true at the time, that I could not remember. I was asked if it was either of the McCormacks. I stated as before, that I did not know who it was. The expression upon Mr. Herrington's face rather indicated to my mind that he thought Dr. McCormack had wired me and I was trying to cover that fact. The truth was I did not remember. Since giving that testimony my memory is perfectly clear as to who did call me back; it was Dr. M. A. McDonald, of Whitesville, Ky., a delegate from the Daviess County Medical Society to the State Association. He called me back because he saw the association, with the profession so loved and so upheld, being placed upon the plain of politics by a self-nominated candidate for the presidency, openly soliciting votes in direct violation of both the written and unwritten law of the association. Other loyal doctors returned as I did and saved the association by electing a doctor that the office sought instead of one who in violation of the association's law sought the office.

I was asked what I thought of Mr. Herrington's bill changing the law permitting the Governor to appoint any doctor upon the Board of Health and changing the headquarters to Frankfort. I answered that in my opinion that law would be disastrous because under the present plan the Governor could only appoint from doctors already selected by the association of the several schools of medicine which would insure a competent doctor upon the Board; because doctors can better judge a physician's ability to serve upon the Board just as a lawyer can best judge a lawyer's ability to serve upon the supreme bench. I also stated that in my opinion it would be unfortunate to remove the headquarters of a scientific department to the politically permeated atmosphere of Frankfort.

STATEMENT OF DR. L. S. McMURTRY.

Dr. L. S. McMurry, of Louisville, being duly sworn by the Chairman of the Committee, was asked to state to the Committee Dr. McCormack's relations to the medical profession. Before replying to the question, Dr. McMurry asked Chairman Schoberth if he desired him to answer the question briefly or in full, to which the Chairman told him to answer it in a way that would give the Committee the information fully but to be as brief as possible.

Dr. McMurry said: The relation which Dr. J. N. McCormack sustains to the medical profession involves, of course, the respective positions which he holds. As Secretary of the State Board of Health of Kentucky he is the executive officer of that Board and consequently the health officer of the State. The various functions of this Board, relating to protection of the public health, stamping out epidemic diseases, inspecting possible unsanitary conditions and recommending legislation, regulating common carriers and abating nuisances, and preventing the dissemination of epidemic diseases among people and animals is known to all the people who take an interest in these important matters.

But the most important work in which he has engaged is as an official of the American Medical Association. This is the largest organized body of physicians in the world. The organization is national in scope, but has its component organizations in every state of the union and in the counties of every state. This organization owns and publishes the best weekly medical journal in the world, recognized everywhere as presenting the highest standard of medicine, both practical and scientific. One of the chief purposes of the American Medical Association is to improve the scientific attainments and educational standing of the country and village practitioner of medicine. While the city physician has access to libraries, laboratories, and hospital instruction, the country physician is deprived by his isolation of these facilities for improving his knowledge. During the past two decades the science and practice of medicine has been completely revolutionized; it has been necessary for the medical profession to re-educate itself. The American Medical Association has undertaken to do this great work, and Dr. McCormack was placed at the head of this great undertaking. To visit the practicing physicians in every state of the union, to organize them into county medical societies, and interest them in the study of modern science and modern methods in his special field of labor. There is nothing in the American Medical Association or in its work that relates directly to the commercial

side of medicine. Its work is to stimulate scientific investigation and diffuse knowledge, and thereby to elevate the standard of proficiency of the profession and give the people the advantage of modern scientific discovery.

Another and incidental part of Dr. McCormack's work is to deliver lectures to the public, the non-medical public, to explain the laws of health and how to prevent disease, with correct teaching as to preservation of health and the prolonging of life. It has also been an important part of his official duties to address the legislatures, upon invitation, in the various states, and acquaint them with the great importance to the people of proper health legislation, so as to prevent diseases and protect the people from imposition and adulterated foods and drugs.

To discharge these difficult duties has required a man of exceptional qualifications. His footprints are on every hillside and valley from Canada to the Gulf and from ocean to ocean. He has addressed academies of medicine, composed of the most distinguished physicians and scientific investigators in the various cities of the country, and also assemblages of country doctors in the court-house of almost every county in the various states. This work has required unusual tact, unflinching energy, exceptional ability, and enormous sacrifice of personal comfort and convenience. He has practically been an exile from his home, and no other man with whom I am acquainted, possessing equal abilities, would for the same salary have done the work. He is personally acquainted with more physicians than any other man in the United States, and has done a work in the medical profession the beneficent results of which are incalculable. And while carrying on this great national work, he has always taken the time to keep in touch with his work here in Kentucky, which he has nurtured and developed through thirty years of incessant service.

STATEMENT OF DR. LILLIAN H. SOUTH.

I never appeared as a witness before a distinguished body like this, and, being a laboratory worker and a woman, I ask you to permit me to present what I have to say of my work in writing and will then be glad to answer any questions about which you wish other information.

I am a native of and was educated in the graded schools of Bowling Green, and later received my B. A. degree from Potter College, in 1896. I graduated from the Nurses Training School of the Central Hospital at Patterson, New Jersey, three years later, but shortly after began the study of medicine and graduated from the Woman's Medical Col-

lege at Philadelphia in 1903, and then spent two years as interne in the hospitals there, giving special attention and study to bacteriology, for which I had a strong liking.

I began the practice of medicine at Bowling Green with my father but after he left there formed a partnership with Dr. A. T. McCormack and opened in my old home, after building a large addition to it, a hospital quasi-public, to which every physician in my county may bring his patients on the same terms. This hospital is incorporated as a charitable institution, and under its charter every cent of its income must be and has been spent for maintenance and improvement. This is the only hospital in Warren county and is used, when necessary, both by the county and city, and we have been able in it to care for any sick boys and girls among the hundreds attending the many schools in Bowling Green, who live in boarding houses and away from the care of their families and need good care and nursing when sick. Of course these sick people are attended by their own physicians.

The first appropriation bill for the State Board of Health was passed four years ago. I was promised the position of State Bacteriologist by every member except Dr. McCormack who objected on account of my partnership with his son. This bill was vetoed by Governor Willson but when funds were supplied by the next legislature I was elected to the position unanimously, but before entering upon the discharge of my duties took a course in this special State work in the Laboratory of the State Board of Health of Virginia, in the laboratories at Philadelphia and for a short time at the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service at Washington.

We have a very strong medical and health organization and before my laboratory was equipped I was in touch with the health boards and profession in every section. Depots for the distribution of mailing cases and other supplies, for collecting and sending in specimens were opened in every county, with the result that during the first year I examined 3,259 specimens giving aid in the diagnosis of that many cases of sickness. In diphtheria and certain other diseases life often depends on the promptness with which this can be done, and to facilitate examinations of this kind, in addition to the laboratory in connection with the Board, I opened a small one in the hospital adjoining my room and its only cost to the State was for equipment and gas, free of rent, and have a messenger meet every mail, day and night and am thus able to start the cultures received at any hour. I accepted this position at a small salary and with the understanding that it would not seri-

ously interfere with my practice, but the work grew so rapidly that it soon occupied my entire time and since I have discovered hookworm in twenty-five counties four assistants have been given me and with the increase in my salary I practically retired from other practice, than giving anesthetics, to give my entire time to these duties.

The Board also requires me to keep on hand in a large refrigerator fresh supplies of antitoxine for diphtheria, secured by contract, upon competitive bids, which is supplied to fiscal courts and health boards at the special price we pay for it. Not one cent of this money is handled by us, but accounts are sent direct from the firm which makes the antitoxine to the fiscal court or other purchaser. Since July 15th last, when this supply became available, I sent 1,131 packages of antitoxine to be used in the treatment of about 600 children, only a few of them dying, whereas, under the old regime 40 per cent, or about 200 would have died. To say nothing of the saving of life, these 1,131 packages actually cost the counties \$1,296, while at the regular price at which it is being sold everywhere the cost would have been \$5,151, a saving of \$3,954 for five months. During the present week the laboratory sent a large number of packages of antitoxine to Carlisle county, where an epidemic of diphtheria is now prevailing at a rate which will save more to that county than its part of the entire appropriation of the Board for a year.

Again, through the Hygienic Laboratory at Washington, I obtained the serum free of cost and gave the preventive treatment of eight cases of hydrophobia. The serum for each case to physicians costs \$75.00 and the ordinary and proper charge for treatment is at least \$150.00, as the treatment extends over 21 days. Everything is free to the people of Kentucky, in my laboratory, and in these eight cases alone the saving to the distressed families or counties may be roughly put at \$2,000.00. The 3,259 specimens I examined during the year at the low estimate of \$3.00 each would have cost somebody \$9,777. As the total cost of the laboratory for the year, including salaries and equipment, was only \$4,078, it looks to have been a good investment. I naturally feel proud of this record and, am glad of the opportunity to tell you about it, and thank your constituents and to give you any information which will enable you to give the people of your respective counties full knowledge as to the great work the General Assembly of Kentucky is permitting the State and Board of Health to do toward saving the health and lives of its people.

STATEMENT OF DR. A. T. McCORMACK

What are the charges that bring a subordinate health official from his desk and work before this honorable tribunal? The gentleman who has heralded himself through the press as the kindly but vigorous prosecutor seems to have unwittingly rediscovered Abdullam's Cave that he has been able to arouse so many groundless suspicions, and it appears that the officers of this Board and of the State Medical Association must disprove and dispel all the accumulated misinformation and complaint garnered these thirty years. Whether these come from the less than half a dozen unappreciated geniuses in my own profession who have felt that I had in some degree retarded their aspirations for office, or from the vain letters of foolish inquiry addressed at random to my fellow citizens of Warren county asking for information along whatever line would discredit either my father or myself, or from the intimations I have had from one source or another as to the scope of the investigation laid out by the Gentlemen himself, I gather that I am summoned by him as his witness before this Committee of distinguished lawyers to support his contentions, about as follows:

"That the Kentucky State Medical Association is a political machine dominated and controlled by one man for selfish purposes."

The Association was formed in this city fifty-seven years ago, by Gross, Flint, Yandell and men of that type and its activities are guided by its charter, the second section of which follows:

"The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of Kentucky, and to unite with similar Associations, to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse amongst physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and more honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

Permit me to present you with a copy of the JOURNAL which was sent to each member of each county society before the last annual meeting. Please turn first to page 734 and note the apportionment in the House of Dele-

gates. Our system of government is modeled after our State form of government and this House of Delegates is an elected body just as you are. I hand you herewith a roll-call for the last session. Look over this list and you will find the names of 103 men, more than 70 of whom were present, and you will find that they compare favorably with any body of men which has assembled in this or any other State in recent years.

In our constitution there are two unique features. It is provided that no delegate shall be eligible to any office except Councilor, and that any member known to have directly or indirectly solicited votes for or sought any office within the gift of the Association shall be ineligible for any office for two years. Article ten provides for a referendum vote to the general membership and this includes the initiative. Such a vote has been taken twice and practically the entire membership voted.

Section three of Article eleven of the By-laws of every county society in Kentucky provides that "agreements and schedules of fees shall not be made by the society" and gives the lie to the frequent assertion of a "medical trust." On pages 757 to 766 inclusive you will find my annual report from which I desire to read one extract:

"The first and greatest cause for congratulation has been the democratization of the organization. As we older members of the profession look backward to the old order of things where from forty to a hundred of the best of doctors gathered together and passed the few days of the annual session in pleasant scientific work, passed a few resolutions which could have little even moral effect unless the newspapers kindly published them, and adjourned. After a few months those who were present would receive a monument to the session in the shape of a volume of transactions. Thirty-six hundred of the four thousand doctors in Kentucky never knew that there was a Kentucky State Medical Society, and a large proportion of them never realized that they were members of a profession and owed it obligations as distinguished from their own individual work.

"Since the reorganization how changed is all this. Many of our county societies have a larger attendance at their monthly meetings than the entire State used to have! Campbell-Kenton, Fayette, Harrison, Bell, Clark, Adair, Henderson, Warren, McCracken, Logan and many others have accomplished more for the welfare of their members and the people they serve in the past two years than the whole profession of the State was formerly able to do. Every physician in Kentucky worthy of the name is assisting in this great work and is represented by a duly elected representative at our annual gather-

ing. Every county society is advised sufficiently in advance of each annual session of every detail of our general work to select and instruct its delegates that every individual in the entire membership may, if he desires, make his influence felt in every item which goes to make up a harmonious whole."

I will ask you to glance at our November issue containing the minutes of our sessions. Each of our constituents may there read every committee report, every motion and every word used in extemporaneous discussion, and so be advised as to every action of the House of Delegates and of his own delegate as to know whether or not to re-elect him. There are 3,331 physicians in Kentucky of which 2,431, graduates from every school or system of practice, are members of our Association. That they are, or can be controlled by any man or set of men is as bare a libel as that a lobby or set of lobbyists can control this Committee, the House of Representatives or the Senate of Kentucky.

Gentlemen: You have seen our JOURNAL. It reaches every doctor in Kentucky. I am requested by our Council to ask that you instruct your stenographer that every question and answer asked here be faithfully transcribed and that we be given a copy. Without expense to the public treasury we will print an edition which will reach every nook and corner of the Grand Old Commonwealth, and we will ask that if there be any man, woman or child who has aught to add to this investigation that will show any fault in the administration of our health or medical laws or any by which more lives can be saved, that he speak now. We will get this edition out at once, Mr. Chairman, so that you may hear what you can while the General Assembly is yet in session. If there were anything wrong, Mr. Chairman, the Association, of which I am proud to be the spokesman, would have known it and would have demanded of you that it be righted. All we now ask is that you expose the motives of the few small men who instigated this investigation, that you know everything worth knowing about our work and our relations with our profession and the people, and that you then make such a report as will continue for us the confidence and moral support of the General Assembly.

And it is also charged that I have worked with and been loyal to my own father, in that when charges that I knew were without foundation were unjustly brought against him I called upon his friends and mine to assist in confuting and disproving them. To this, Mr. Chairman, I must plead guilty, and, in extenuation of the offense, if it be one, it is proper that the Committee be told things somewhat personal and yet which may well

find a place amongst the archives of Kentucky.

My father was one of sixteen children. His education was obtained from self-imposed studies by candlelight after doing his hard share of farm work. He earned the money, which, carefully hoarded, put him through his medical college, from which he graduated with first honor. Amongst my earliest recollections of him was the trying time of the yellow fever epidemic in '78 and '79, when he came home exhausted night after night to snatch a few hours sleep from work with the sick and dying, seconded only by a few heroic Sisters of Charity. This brought him to the attention of the Governor, then forming the State Board of Health, recently authorized by the General Assembly, and in 1883 he became its Secretary and executive officer. I was then eleven years old, and, under the proud but unsalaried title of clerk was initiated into the then but developing science of preventive medicine. From that day to this I have shared his every thought, public or private. Day after day and night after night my mother and I pecked away with tired fingers at the typewriter or wrapped and unwrapped diplomas before our own fireside, because the meagre income of the Board was too small to pay for an expert stenographer or even for light or fuel, when human suffering and human lives could be saved by our self-denial. Until the past year, Gentlemen, I have hardly know what home life meant. Every member of our family, and our servants, have helped to do work, otherwise left undone, and without expense to Kentucky. After this investigation is over it will be easy for the people of Kentucky to know that that man never harbored a selfish or ignoble thought. About his very traducers at this time I have heard him wonder if they could fill any useful place, however slight, in the life-saving work he was planning for his people. An exile from a home, where he is adored, and a circle of true friendship in Bowling Green, it has been his lot to wander over the State where death and pestilence have gone. His life has been an open book and every page denies the paltry insinuations that have been brought before you. He needs no defense from me nor anyone, but I would be false to every honest instinct, knowing the facts as I do, if I had not rallied to his defense and to that of the work to which he is devoting his life all that force of public opinion which his honorable career for thirty years have builded about him. As he descends into the evening of life, Mr. Chairman, defended by the conscientiousness of a life's labor worth the doing, supported by our own profession with such practical unanimity that it is small wonder that little men think all

this is an artificial machine, every Kentuckian will realize that he has builded for himself a greater monument than can be built with hands, and as time passes a tribute will be paid him and his work in the patter of little feet and the prattle of little voices that without him had been silenced, for his life has been spent to save the health and lives, and the resulting happiness and vigor of the children and the men and women of Kentucky.

STATEMENT OF DR. W. H. WATHEN.

I have known Dr. J. N. McCormack since he began his work as Secretary of the State Board of Health of Kentucky, and there are but few men in the State more familiar with the history of this work than I. Since 1893, excepting a few years, I have been Referee of the State Board for the County of Jefferson and the City of Louisville. This brought me in close relation with the Board and with the work of Dr. McCormack. As Referee, for many years I organized the County Board of Health, and this was then independent of the County Judge or the Fiscal Court, all the appointments being made by the State Board of Health upon my recommendation. I do not remember that during these years Dr. McCormack ever suggested the name of anyone for an appointment upon the Board, leaving it entirely with me. The recommendation of men for these appointments had no political significance, the selection being solely influenced by the fitness of the individual for the work that was required. Republicans and Democrats were alike appointed. The President of the Board for several years was the late distinguished Dr. Geo. W. Griffiths, a life-long Republican. This Board never tried to exercise any political influence, nor was the Board influenced in its appointments and its work by the suggestions of Dr. McCormack any further than was necessary to make the work efficient and conform it to the health laws that govern our State. As far as I know the same freedom of political bias was exercised in the County Boards of Health throughout the State. My intimate knowledge of the work that Dr. McCormack has done as Secretary of the State Board of Health in the interest of the betterment of the sanitary conditions in Kentucky, compels me to believe that he has performed the duties of his office efficiently and honestly, and he has probably done more good work, considering the small appropriation of our State for health purposes, than any other state secretary in this country. During all these years the accusations against him have usually been made by personal or professional enemies, and often for selfish purposes. I do not believe there is a man in the medical pro-

fession in Kentucky who could, all in all, have done so much good work as Dr. McCormack.

I have also kept in line with Dr. J. N. McCormack in his work in connection with the State Medical Association. He has done more to uplift the Association and to give it standing with the profession of the country than any other physician in Kentucky. His record in relation to the State Medical Association is absolutely clean, and his work has been mainly altruistic. He, like myself, has been honored by his election to the presidency of the association many years ago, and I am sure that neither of us employed political methods for this office. When his son, Dr. A. T. McCormack, was elected secretary of the Association and editor of its JOURNAL several years ago, at the meeting of the Association in Owensboro, I personally know that the father advised against his election, believing that it would be a sacrifice to accept the office. My purpose in urging the election of Dr. A. T. McCormack was to bring the State Board of Health in close relation to the State Medical Association, so that both might work harmoniously in the interest of the medical profession and the health of the people of Kentucky. The work of the Board by this means could become more efficient and the doctors of the State educated better in what the Board is doing and in what is best to be done to prevent disease and to improve health conditions. The members of the State Medical Association can have no possible interest in purely political questions and their work in the interest of the health department of Kentucky is entirely unselfish, and financially against their own interest. When a member of the County Health Board of Louisville, and in fact its organizer, I certainly felt under no obligation to the State Board of Health or to Dr. McCormack. The office paid me nothing, caused me much annoyance and the expenditure of a considerable amount of money. No one thanked me for the work I did. It was a very disagreeable position and one that no honest man could accept for the purpose of political influence or selfishness. I believe that the members of other county boards of health feel just as I then did, namely, that they are under no obligation to the State Board or to Dr. McCormack because of their appointments. For me to believe otherwise would be to place a low estimate on the personal and professional honor of these men. It would be against the efficiency of the work of the State Board of Health to separate any of its departments, and it is better also, that the Secretary and the editor of the JOURNAL of the Medical Association should be in close proximity to the Health Department. The work of all the

departments of the Board may be correlated, resulting in more efficiency. In reviewing the history of the State Board of Health since its organization up to two years ago, one is astounded at the great amount of good work it has done with so little money—\$5,000 or \$6,000 a year. Then the \$30,000 now appropriated is relatively inadequate for good work, compared with the liberal appropriation for the same work in our better states. It must be remembered that the work of the State Board of Health in the prevention of disease, in controlling epidemics, and in fact in nearly every duty within the province of the Board, is for the benefit of the people, and the State should show its hearty appreciation of the efforts of the medical profession in matters of this sort. I have also been in close touch with Dr. McCormack in the splendid work he has done in the reorganization of the American Medical Association, which is the largest, most representative and the most efficient medical association in the world. He is more responsible for this reorganization and for the uplifting of the medical profession, and especially the country physician, than any other man. The work of the Association is now known, appreciated and complimented by the medical profession in all parts of the world, and the Journal issued by the Association is the best weekly journal for the general physician that is published in any country. The work in the State Board of Health and the National Association compelled Dr. McCormack to relinquish a lucrative practice, to absent himself much from his home, often subjecting himself to the dangers of contracting contagious diseases. He has resigned his office in the American Medical Association so as to devote his entire time to the duties of the State Board of Health, for which he is paid practically nothing.

STATEMENT OF DR. W. ED. GRANT.

This statement is made by me for the Committee appointed by the Legislature of Kentucky to inquire into the management of the State Board of Health.

I am Dean of the Medical Department of the University of Louisville, and in this capacity have charge of the education of about four hundred young men who have been admitted into that institution by the examiner of the State Board of Health. I am Health Officer of the City of Louisville, and through the courtesy of the State Board of Health have been attending their meetings. I am also a member of the County and State Medical Society and the American Medical Association and attend these meetings where I frequently meet Dr. J. N. McCormack. I wish to say that at all times I have found him most efficient in promoting the work of every so-

ciety he attended, but his efforts were always lent to the forwarding of interests that had for their purpose the rapid and efficient accomplishment of the scientific purposes of the society, looking at all times to the improvement of public health, public morals and higher education. I have found him to be perfectly reliable and the soul of honor. I have never had any reason to suspect him of scheming to mislead anyone by the methods of a politician, for his efforts have always pointed to deeds that were of the noblest character. I have always found him untiring and ever watchful of every movement that promised to help others to carry out plans that would save life and promote the health of the whole community. Through suggestions of his, the State Board of Health has assisted the health authorities of this city in accomplishing much creditable work. Such men need the support and commendation of all good citizens, and I utterly deprecate every effort to hinder his usefulness.

SUPPLEMENTARY STATEMENT BY DR. J. N. McCORMACK.

This was not included in my first statement because the newspapers, my only source of information, led my associates and myself to believe that the investigation related solely to the expenditure of the appropriation made for the use of the board by the State.

The first medical practice act, providing for a board of examiners for each congressional district for nongraduates, was passed in 1874, a fee of \$20 being charged by these boards to meet the expense of the examination.

"The State Board of Health took general supervision of this work when it came into existence four years later, but so many bogus and correspondence school diplomas were registered and local and itinerant quacks had such a sway in the State that the law was amended in 1888 so as to require all diplomas and schools to be certified by the State Board of Health, or one of the three state medical associations. Each of these associations voluntarily and in writing requested the board to certify all diplomas under the law, and the duty of doing it was assigned to me.

A fee of \$10 for each certificate was fixed by the law, but in order to make compliance with it popular and easy, I at once announced that it would be done without charge. In about four years most of the physicians had complied with the law, but in operation

it proved so defective that in 1893 the present law was enacted requiring a certificate from the board, registered in the county of residence, as authority to practice, and all the work had to be done over again.

STACKS OF DIPLOMAS.

Month after month, under both of these laws, my residence was filled with stack of diplomas often running into the hundreds, to be unpacked, compared, certified, packed and reshipped. For several months during the stress of it, under both laws, I gave up my practice to others and devoted the entire time of myself and family to it.

This law required a fee of \$2 for each certificate to meet the clerical and other expenses of putting it in operation, but the fee was not required in several counties, as to physicians long in practice, and of those in all counties who were active in securing compliance with the law.

In spite of all this, there was much misunderstanding about and opposition to the law. In order to overcome this I visited many sections to meet members of the profession in person, and the correspondence was an enormous one. In about four years the bulk of the profession was registered and soon there was not an itinerant or advertising doctor in Kentucky, the only State in which such results have ever been accomplished. We have done all the clerical work ourselves; the expense for lawyers, detectives, printing, postage and express during all three years had been considerable, and after this had been met in 1896, of the total amount of \$4,977 collected to that date, a fund of \$2,400 was left, and, in partial compensation for our services, this was turned over to me, as were the fees for future registrations, after defraying the expenses incident to the continued operations and enforcement of the law.

REGISTRATION FEE INCREASED.

The amendment of 1904 increased the fee to \$10, but it was found that there were still many applicants who were entitled to and did register under the old law. It was soon found that the increased fee provided more compensation than the duties entitled me to, and without formal action of the board, the fund was permitted to accumulate. This amendment provided that graduates from schools outside of Kentucky should be examined from its passage and that all applicants should be examined after 1907. This for the first time imposed laborious du-

ties upon the other members of the board in the examinations proper, and in the grading of papers, and as the income under this law was never sufficient to pay the full compensation to which they were entitled under its provisions, and as the board always felt a freedom in using this fund which did not apply to that appropriated by the State, and on account of the increased duties it was decided in May, 1906, that the accumulated fund and future fees, after paying all expenses, should be divided in the ratio of one-tenth for each member, and three-tenths for the secretary.

In the intervening six years, under this arrangement, as will be shown by the accompanying financial statement and vouchers, each member has received \$450 in addition to expenses, and I have received \$1,350, and, as nearly as can be calculated, distributed over the twenty-nine years I have had supervision of the law, I have received annually an average of about \$250, and a total of about \$7,250.

VOUCHERS SINCE 1906.

In this connection, it may be proper for me to say that since your last adjournment I have gone over the accounts of all the funds and find that the payments to me and my son, including the pittance to my wife, under both laws, outside of traveling expenses, amounted to \$2,000 annually, for the twenty-nine years, aggregating \$58,000, out of a total revenue from all sources of \$167,000, for doing practically all the work, except the examinations in recent years.

This statement and the itemized accounts and vouchers since 1906 are submitted in accordance with your instructions as to this fund at your last sitting.

STATEMENT OF DR. W. W. RICHMOND.

I have been intimately associated with Dr. J. N. McCormack in the Kentucky State Medical Society for nearly forty years. During all that time I have never heard him say nor known him to do anything that would lead anyone to conclude that he had the slightest tendency to dominate or control the Society. To my knowledge he has always opposed a policy of that kind, and I have often heard him so express himself. There was a time in the early history of the organization when the Society was largely controlled by certain individuals whose aim was personal benefit rather than the interest of the Society. This pernicious system continued until it was recognized by the more thoughtful that the usefulness of the organization was waning and the membership of the Society was falling off, being composed of less than one-tenth of the doctors in the State at that time. On

that account, a move was made headed by Dr. McCormack to reorganize the Society and in that way get rid of the offending cause, increase the membership, and extend the usefulness of the Society to every county in the State.

A new constitution was written by Dr. McCormack and adopted by the Society. The Society is working under that constitution at the present time. It provides that the State Society shall be composed of the County Societies in the State, each County Society constituting a component part of the State Society. It also provides that the State Society shall be governed and controlled by a house of delegates, composed of a delegate from each County Society in the State. The House of Delegates, among other things, elects all the officers, and no delegate can hold office except that of counsellor.

Therefore it would seem as impossible for any one to dominate or control the Kentucky State Medical Society as it would for a member of the State Legislature to dominate and control that body, and even more impossible for Dr. McCormack, carrying out his views long before expressed, embodied a clause in the constitution which provides that any member soliciting office in the Society shall be disqualified for holding office for a period of two years, a safeguard against the possibility of any one dominating or controlling the Society.

Dr. McCormack has given more thought and study to the subject of Medical Organization and the maintenance of the same than any doctor in the United States. He was instrumental directly in the organization of every County Society in Kentucky, and the results have been far reaching: not however, farther than he anticipated, for he not only succeeded in the organization of good working County Societies, and bring the doctors together in a bond of professional fellowship, a thing that had never been done before, but he inculcated in them the principles of preventive medicine so that through them he is doing more to prevent sickness and to keep people from dying than all the other forces in the State put together. Instead of dominating, Dr. McCormack has done more to pacify and bring doctors in closer relation to each other, to improve medical ethics, to raise the standard of medical education, and to encourage doctors to study and better prepare themselves to prevent sickness and treat diseases, than any other doctor in the United States. It has been charged that Dr. McCormack has been overpaid for his work when, as a matter of fact, it has been done at a serious sacrifice.

His work has been largely altruistic, full of the spirit of human kindness, and he has

always felt a deep sense of what he conceived to be the duties of the medical profession to suffering children, women and men. There are so few men of his class in the world that it is hard for some people to believe this statement, but to those who have lived close to Dr. McCormack, and who know him best, the statement is no surprise and readily believed. Notwithstanding the adverse criticism of a few people who have had aspiration without ability, and who have failed to realize their fondest hopes in the present organization and who know but little of the work that Dr. McCormack has done and is doing; and who have put themselves to no trouble to find out, it is gratifying to know that he has the love and confidence of all the people and more than four-fifths of the doctors in Kentucky.

STATEMENT OF DR. JNO. G. SOUTH,
PRESIDENT STATE BOARD OF
HEALTH.

To the Committee on Kentucky Statutes:

GENTLEMEN:—

Believing that there has been a deliberate effort on the part of some persons to create an impression upon this Committee and upon other members of the Legislature that I am urging this investigation, and that I desire a change in our present medical law, and that I am personally opposed to Dr. J. N. McCormack, I desire to file this statement.

I have known and been associated with Dr. J. N. McCormack in health work in Kentucky for the last thirteen years. I know his character as a man to be of the highest type, his reputation as a physician and health officer to be of the very highest. He stands second to no man in the world in health work. Kindly allow me enough of your valuable time to tell you something of the service he has rendered here in Franklin county. This county was visited by a severe small-pox epidemic in the summer and fall of 1900. This was the first small-pox epidemic in Kentucky within the memory of the younger generations, therefore, the people of this county and state were panic stricken. The people, through history, knew of the terrible ravages of the disease and all of its loathsomeness. We appealed to Dr. J. N. McCormack for help. Within twelve hours he was here in person. He at once put in quarantine all small-pox cases that could be found and all who had been exposed to the disease. He requested the Mayor to call a meeting of the city council, and the County Judge to convene the Fiscal Court. Arrangement was immediately made by these bodies, with the assistance and advice of Dr. McCormack, for the quarantining, treating, clothing and feeding of these people. I was the physi-

cian selected to care for those afflicted. It was now that I began to know and appreciate Dr. McCormack, the man, and Dr. McCormack, the health officer. He was at all times firm in the enforcement of his duties, but withal, gentle and kind to all those afflicted. His first advice and instructions to me were to protect the public from the disease at any cost, but that I should also save the county and city every expense possible. This county and city did not at that time possess an eruptive hospital. He said this was to be regretted, but that we would at once establish camps for both those who were afflicted with the disease and for those who had been exposed to it, but had not yet developed it. This being decided upon, he personally vaccinated me and all others that were to assist in transporting the patients to the camp, also all those who were to be employed at the camp. He personally arranged the details of the camp, organized it, and with the assistance of James A. Scott, James H. Graham, L. F. Johnson and other public spirited citizens, removed the first patients to the camp. This was done in the dead of night. People near the camp site and along the road leading to it were thrown into such a panic that they tried to prevent the establishment of the camp near them and actually fired upon us. Dr. McCormack stuck to his work notwithstanding the fact that his life was in danger from bullets and disease. All this without one cent pay other than his meager salary as chief health officer of Kentucky. There were hundreds of people afflicted with this epidemic but by his wonderful executive ability, energy and skill the last patient was dismissed as cured and safe to the public just sixty-three days after the first case had been reported to him. Within a very short time he had practically every person in this county and city vaccinated. This remarkable work will be but one of the many monuments he has built for himself throughout Kentucky. Having been associated with him in health work practically all the time since that terrible time, I want to say that his work has been of the highest type and I have never known him to fail to perform a duty. Kentucky could ill afford to lose such a man in this great work. Need I say more of the man? I have heard much of the lack of harmony in the work of the State Board of Health. All strong minded men have opinions. The people are benefitted and the men are benefitted by the free expression and exchange of opinions. Dr. McCormack and all members of the Board have freely discussed matters that have come before it, and have sometimes differed as to what was best. I am glad to say, however, that in practically every question that has come before the Board the vote (after these discussions) has been

unanimous. The minutes of the meetings bear me out in this. As to our medical and health laws, my belief is that they are all-right, insofar as public sentiment and our limited means will enable us to enforce them. This will be accomplished by increased appropriations and a campaign of education in sanitary and health conditions. "We want a league, offensive and defensive, with every well wisher of Kentucky and her people."

The present manner of selecting members and their appointment by the Governor with the consent of the Senate is ideal. It has been charged that Dr. McCormack has a machine in this law that keeps him in office as secretary to the Board of Health. He has held the same office for thirty-three years continuously. I ask: "What kind of a machine kept him in this office for a quarter of a century prior to the enactment of this law?" I believe the man was built for the office and not the office for the man. As to the suggestion of removal of the Board of Health offices to Frankfort. I am and have always been deeply interested in Frankfort and her people and their welfare. It is not at all practical to remove these offices here at this time, at least. We can not house them. We would first be compelled to have an appropriation of not less than fifty thousand dollars to erect buildings for the offices and laboratories. May I repeat that I ask to file this because of the false report that I do not endorse Dr. McCormack or his work nor the present medical laws of our State. As President of the Kentucky State Board of Health, I deem it not only a privilege but a duty to endorse Dr. McCormack and his work, and also the medical and health laws that he has so faithfully executed.

I most respectfully ask for the welfare of our people, that this Honorable Committee commend Dr. McCormack, his work, and the present medical law to the Legislature and the people of Kentucky, and that Mr. Herington's bill be reported adversely.

Most respectfully submitted,

JOHN G. SOUTH.

LETTER FROM DR. M. K. ALLEN.

Louisville, Ky., February 15, 1912.

Hon. H. B. Schoberth, Chairman,

Frankfort, Ky.

To the Committee on Kentucky Statutes of the House of Representatives, who have under consideration the bills affecting the State Board of Health of Kentucky:—
Gentlemen:

Having been engaged in Public Health work for the past fifteen years, I feel that I know something of the importance and value

of public health work to the people, whether administered by the National Government, individual States or municipalities.

As Health Officer of the City of Louisville, Ky., for ten consecutive years I was constantly and intimately associated with the doings of the State Board of Health and I feel that it is but just to this body to say that unquestionably they have rendered the people the most valuable service that could be done by any department of our State Government.

For years I have known many of the public health men of this country and I regard Dr. J. N. McCormack the best public health worker in the United States. He is exceptionally intelligent, honest, earnest, industrious and most thoroughly capable from long training. His fearlessness in the fight for pure food and good sanitary conditions has in the many years he has served the people very naturally made enemies for him, as was the case with our great National expert, Dr. Wiley. No man can fearlessly enforce health measures without infringing on the supposed personal and selfish rights of violators of the law.

The people of this Commonwealth can never pay the debt of gratitude they owe the members of the State Board of Health, who have given their very best professional services and time, as against their own interests, in an effort to protect her citizens against disease and death.

It would be a calamity to this State to lose Dr. McCormack as a Health worker either by death or retirement. A competent, faithful and trained health worker is a rarity and it is highly possible that many, many years will pass before the people of this State see and know another McCormack.

If he is willing to continue to make the great sacrifice he has been making for years, let's not fail to utilize him, giving him every possible facility to further this great work.

Very respectfully,

M. K. ALLEN, M. D.

LETTER FROM DR. REYNOLDS.

Louisville, Ky., January 25, 1912.

Dr. Jos. N. McCormack,

Frankfort, Kentucky.

DEAR DR. MCCORMACK:

I am amazed to observe the names of some of the reputable members of the Medical Profession of Madison County, engaged in a political scheme to cripple Kentucky's best asset, the State Board of Health. I was at Frankfort in April, 1878, when the Legislature passed the first Act creating this Board, and well remember the interview or private discussion Dr. Sawyer, Doctor Pinekey

Thompson, you, and I had concerning the extremely limited authority the Act extended to the Board.

I have watched your efforts and the general growth and expanding influence of this noble, and beneficent work, with increasing interest, and I must say you have honored the State of Kentucky beyond my powers of description in the enthusiastic and successful efforts you have made during the past thirty years.

It is an insult to the intelligence and the dignity of the Kentucky State Medical Association to even insinuate that its conduct has been dominated by any man or any set of politicians on earth. I have been a member and a pretty constant attendant at the meetings of the State Medical Association for more than forty years, and feel entitled to express an opinion concerning its work. No political discussion has ever been introduced at one of its meetings. Its character and standing in the intellectual world is as high as that of any similar organization in this or any other country.

If the people of Kentucky cannot trust the State Medical Society to nominate persons for membership in the State Board of Health, I am sure it would be suicidal to permit the politician to name them.

With abiding confidence in the ultimate triumph of truth and justice, I await your complete vindication.

I am, very sincerely yours,

DUDLEY S. REYNOLDS.

LETTER FROM DR. J. H. SAMUEL.

Dr. J. N. McCormack, Secretary,

Bowling Green, Ky.

MY DEAR DOCTOR:

Some unknown has been mailing me "marked copies" of the Courier-Journal.

I am writing simply to say that I firmly believe you never knowingly did a wrong act and that you have ever had the general welfare of the entire profession at heart.

I went—or, rather, was appointed upon the State Board with a specific understanding: the nature of which I once explained to you at the Galt House.

Watching you through not the most friendly eyes—due, of course, to what I had been told—I was driven—most willingly—to admire and respect every professional or official action that you made. I know that you have a hard fight and to many by no means an enviable one. You will come out victor—because you are, as you have always been, in the right and for the right and the best. I may never at any time be of much use; but I want to assure you, that I am with you in sympathy

and will most gladly be with you along the firing line.

I am sincerely, yours, etc.,

J. H. SAMUEL.

Maysville, Ky., February 14, 1912.

DR. McCORMACK'S RESPONSE TO THE RULE.

May it please the committee:—Eight days ago, in compliance with a previous agreed ruling I filed with the Sergeant-at-Arms a full and explicit statement as to the practice act fund from 1888 to January 1, 1912, which I read to you and made complete by itemized accounts and vouchers for the years they were required by the board. Not being certain as to what else Mr. Herrington wanted, I asked the Sergeant-at-Arms to inform him that I would be glad to go over the papers with him, explain any matter about which he was in doubt, and supply any data which was lacking.

Hearing nothing from him and weary over the delay and inconvenience to you and my friends, on two occasions, I went to your Chairman and requested him to arrange for a conference between Mr. Herrington and myself for the purpose indicated, and he also failed to secure it.

The President of the Board, its Counsel and myself were promptly at the place and hour for your meeting, on the 8th instant, and after a long wait there and in an adjacent room, we were informed by the Sergeant-at-Arms that a quorum was unlikely, but that upon the promise of one he would at once notify us. While we were resting upon this assurance 30 feet away, Mr. Herrington went before the committee and procured the order of that date.

Like my old friend and co-laborer Dr. H. W. Wiley, the Apostle of Pure Food and Drugs of the Nation, I have been fearless in my exposure and prosecution of the powerful interests engaged in poisoning the people by adulterated and fraudulent foods, drugs and the practice of quackery. For years they spent hundreds of thousands of dollars annually inundating congress with literature plausibly designed to discredit him and myself and our profession until at last they were dragged into the open, their character recognized until he now holds the confidence of the American people to the extent enjoyed by very few men in history.

On account of my relations to my profession and this movement in the State and in the Nation, these interests would gladly do more now in supplying members with slanderous literature and otherwise to bring reproach upon me than they did Dr. Wiley, now that he has escaped them. Many of these people belong to the criminal classes and have no scruples in accomplishing their nefarious

purpose and from the day this investigation started their paid representatives have threaded the halls of this hotel to the room where the Sergeant-at-Arms was trying to keep my records which will one day become beyond value to the profession and people of Kentucky, from the custody of which I ought never to have parted, and which I now ask you to restore to me, I have found them absent, scattered and I suspect in irresponsible hands, and have trembled for their safety.

Not yet knowing exactly what Mr. Herrington wants, and with no time to go over them, I submit for his and your inspection the original applications, with the fee paid plainly marked on it, for every certificate which has been made since December 18, 1895, when my residence burned, at which time previous ones were destroyed; my bank books from the time account was ordered kept separate, in 1906, with income, expenses and vouchers; the scratcher kept by my stenographer, for her own information, of the fees received in the office since 1908, and which I never had occasion to see until Saturday. These, like my other records and papers are priceless and with the constant duties pressing upon your excellent Sergeant-at-Arms, often keeping him away from his room night and day, they are not safe and I again urge that they be placed in my custody, subject at all times to the inspection of Mr. Herrington and your committee or your accredited representatives, to any or all of whom I will gladly give assistance and explanation at any time.

Gentlemen, I have grown gray in the service of my State, serving it longer, continuously in an official capacity than any other man. Cheerfully, though often misunderstood and condemned temporarily by the thoughtless and ignorant, as is to be expected by one leading any reform, I have given the best years of my life to Kentucky and her people, and have been honored as is true of few men. Without a chance to be heard, you ordered me as though I was a criminal to be here at noon of yesterday under pain of contempt. At least, it was so printed in the newspapers.

Smarting under the injustice of it, but as a law-abiding citizen, I traveled all night in order to be here at the appointed hour, to find no one named in the order here to receive them, and searching with due diligence, was only able to find the chairman before the hour appointed for the house to assemble. I have endeavored in good faith, to comply with every request or order of the committee, or frankly explain why I could not do so. I have in the same good faith answered all questions and am glad and willing to do so further at any time.

ORIGINAL ARTICLES

TREATMENT OF FRACTURES OF THE LONG BONES.

By GUY P. GRIGSBY, Louisville.

I am sure we will all agree that we are not utilizing our talents, nor all of the advantages at our disposal, in the treatment of fractures. Especially is this true of fractures of the long bones. I say, without hesitation, that we are not getting the results we should in view of the appliances, the nearly perfect aseptic technic of our present surgery, and the X-ray, that we have at our command. It would seem that there was a lack of interest and a feeling that the subject of fractures was such an old one that it would take care of itself. The brilliant results in thoracic and abdominal surgery have been achieved because the minds and skill of the majority of surgeons have been centered upon those particular subjects at the cost of more or less neglect to other branches of surgery.

Fractures are not receiving the attention of surgeons nor are our teachers in the medical colleges devoting the time and attention to this subject that it deserves. I am quite sure the older members of the profession recall the thoroughness with which this subject was taught when they were students, offering quite a contrast to the present methods of teaching. Without question, the X-ray is more or less responsible for the change. We who have access to this means of diagnosis resort, perhaps too frequently to its use, and should depend more upon the findings after a careful clinical study of the case. The X-ray has greatly advanced our knowledge of fractures, showing that fractures occur in types, and definite types at that; that fractures formerly thought to be common really occur most infrequently. And so, with this knowledge, it is indeed hard for the present generation of surgeons to consider a fracture except in the light of a skiagraph, nor tolerate anything that partakes of the older methods of diagnosis. I do not wish to decry the X-ray, but to consider its employment only in certain cases. It is often unnecessary, and impossible, to have every fracture skiagraphed, adding at times, quite a burden to those of limited means. In certain obscure and special conditions its employment is a necessity. It will always prove itself an exposé of the bad results of the careless and unskillful surgeon.

After a fracture is reduced and suitable dressing applied, the X-ray may be used simply for the assurance of an accurate and proper coaptation of the fragments. The skiagraph should be taken in two different

*Read before the Muldraugh 11th Medical Society, Elizabethtown, December 1911.

planes, crossing each other at right angles; otherwise, some fractures will be overlooked and cause no little embarrassment to him who places his absolute confidence in the X-ray findings.

I wish to deal with the treatment of fractures of the long bones, especially considering fractures of the neck and shaft of the femur, as bad results often occur under present methods of treating these cases, and since the same general plan of treatment as is advocated for them will be applicable to fractures of the other long bones.

FRACTURE OF NECK OF THE FEMUR.

Whitman and others have shown that this fracture occurs very much oftener under the age of fifty than was formerly thought. The diagnosis of this condition is often puzzling, and perhaps mention of the cardinal symptoms will not be amiss:

1. There is usually a history of a fall or violence.
2. Pain is present and is increased on motion.
3. There is outward rotation of limb.
4. Shortening is present, varying from 1-4 to 2 inches, and is probably the most important symptom, and depends upon the lessening of the angle between the neck and the shaft, which approaches more nearly to a right angle upon impaction of the fragments of their displacement longitudinally.
5. Crepitus may or may not be elicited.
6. Loss of function, patient usually unable to draw up heel toward hip.

With these symptoms, and a skiagraph if it is possible to have one taken, the diagnosis can usually be made, but certainly offers greater difficulty in early adolescence and childhood.

I would again remind you that these are the cases that are neglected, being treated for hip disease, growing pains, rheumatism, etc. It may heal in coxa vara, and the symptoms may result from this deformity, or from progressive deformity as the weight is borne.

These cases and their treatment are divided into two classes; (1) recent fractures; (2) old fractures.

In recent fractures, as soon as the diagnosis is made, the abduction treatment, as devised by Whitman, should be instituted at once. A general anesthetic is given, preferably ether. The patient is placed upon a box, or pillow, about eight inches high, and large enough to support the head, shoulders and trunk; the pelvis rests upon a pelvic support, and the extended limbs should each be held by an assistant. The sound leg is then abducted to the normal limit, which is usually about 45 degrees, and the fractured limb is abducted to a degree to correspond to the sound one. Traction is then applied and the

outward rotation is overcome by lifting up and supporting upper end of femur and, at the same time, rotating the leg inward. Measurements are then taken to see that all shortening has been overcome, and if it is still present a greater amount of traction is applied until the two limbs are of equal length. A plaster spica is then applied, from the toes to the costal margin, during the application of which the assistants should maintain their respective positions and use the utmost care not to disturb the fragment. The spica is worn usually for eight to ten weeks, followed (perhaps) by a short spica for three or four weeks. After removal of the plaster, there is usually a tendency to abduction deformity, and this is overcome by daily stretching of limb.

This treatment is used for the aged as well as the young, and I would condemn the almost universal practice of treating these cases by "Buck's extension" and sand-bags, because of the almost uniform bad results that follow this line of treatment. So long as a patient is able to take an anesthetic for 20 or 30 minutes, this is by far the most rational and satisfactory treatment. Several cases have been reported of good functional cures in very old patients where this treatment has been used. I am sure it is quite needless for me to recount to you the advantages of this treatment; results speak for themselves, and the results from this treatment during the past four or five years have proven conclusively that in this condition it gives the best hope for a functionally active hip.

OLD FRACTURES.

In neglected cases, operation with employment of abduction after the fragments have been put in apposition, is the only treatment. A free incision is made over the great trochanter, and site of fracture is exposed. If there is faulty union, this is broken up and the ends of bone freed of callus. It may be necessary to resect a portion of one fragment before they can be placed in proper apposition, due to contraction of the tissues. If the fragments show a tendency to slip, a long spike, or bone drill is passed through the trochanter, the neck, and well into the head of the femur. In this way the fragments are securely held. The drill, or spike, is easily removed by a small incision in about eight or ten weeks. The wound is closed by catgut, approximating like fissures, and, as far as possible, eliminating dead spaces. Plaster spica is then applied with the limb in abduction. I have assisted Dr. Whitman in eight cases so treated, without infection and with a good functional result in all of them.

Now, as to treatment of fractures of the shaft of the femur, there are two methods:

1. By traction and external splints, or reduction under anesthesia and application of plaster of Paris.

2. The operative, or so-called open method, with or without the employment of internal splints.

The first method is familiar to you all, and you have experienced the failures and successes attending the method of treatment; so I will devote no time to their discussion but will deal more intimately with the operative treatment.

Lane, of London, Huntington, of San Francisco, and lately Martin, of Philadelphia, are the most pronounced advocates of this method. R. H. Harte has aptly stated that the profession is divided into three groups regarding the open treatment of fractures: (1) the ultra-conservatives, who rarely, if ever, operate; (2) the radicals, who operate upon nearly all fractures, and (3) the conservatives, those who operate upon properly selected cases, after it is definitely proved that other methods of treatment are not expedient, that reduction is impossible, or that the fragments cannot be retained in position after reduction.

From the first, or ultra-conservative, we would have less mortality and distinctly the most bad results; from the radicals we should have the greatest mortality; from the conservatives we should get the best results consistent with a low mortality.

Theoretically, the open method is the one of choice, but in the light of results from this method in the hands of the best surgeons, its general employment in all cases of fracture cannot, at the present time, be advocated. Practically these points must be considered: That infection may occur, and that occasionally death may ensue from this infection. Infection is favored because the simple fracture is converted into a compound one, and by trauma of the soft parts coincident with the reduction of the fragments. When plates or other extraneous substances are used for splinting the bone, they interfere with the nutrition of the bone and may cause necrosis and caries. On the other hand, considering a fracture as a wound, the sooner and more accurately the surfaces are brought together and retained in position, the less will be the swelling and the more perfect the healing. If, with the open method, primary healing occurs, the disability is much shortened, especially in the lower extremity, and this is of especial importance to the wage-earner. Non-union is preventable, so far as the interposition of tissues between the fragments is concerned. The anatomic result is perfect, in contrast to the noticeable deformities resulting from other methods. Perfect functional results is attained, and even if infec-

tion occurs and the plates must be removed, the bone is usually firmly enough united to give a good result.

Now, as a conservative, what cases should be treated by operation?

1. It is indicated for immediate and accurate reduction of misplaced fragments of long bones, where it is impossible to correct the deformity by other methods.

2. Where portions of the soft parts intervene between the fragments.

3. In fractures involving the joints, because it allows of much earlier use of passive motion, so essential to this class of cases.

4. In recent cases in which the fragments cannot be reduced, or cannot be held in place, after a fair trial, or in cases where there is a disturbance of circulation after reduction of fragments.

5. In all old cases with non-union, or vicious union.

6. Advised to those whose occupation requires much standing and moving, necessitating perfect and firm union, or else their earning capacity will be reduced by the discomfort produced by the strain on the muscles and joints.

OPERATIVE TECHNIQUE.

The following instruments are essential to success in this mode of treatment:

A bone forceps as devised by Lane.

A Lambotte embracing clamp to hold fragments and plates while plate is being secured by screws.

A screw-driver and screw-holder combined. Several bone drills of various sizes.

The following principles must be rigidly adhered to: The use of rubber gloves, immediately changed if punctured—the same precautions for perfect asepsis as are required for joint surgery; *the hands should not touch the wound.*

In the way of preparation, I would advise thorough cleansing with soap several hours before operation, followed by sterile dressing, and the application of iodine at the time of operation. Over site of fracture the skin should be scratched with a pin before operation; this will save both hesitation and manipulation at the time of operation in endeavoring to locate the fracture.

BONE SUTURE.

Many methods have been advanced and used for uniting the ends of the bone-wire, staples, catgut, inter-medullary splints both of metal and ivory, and bone plates. Bone plates and occasionally the use of silver or bronze wire will meet all requirements. An experience with bone plates will convince one that their employment is based upon the right principle. The plates are usually made from spring tool steel, from 1-32 to 1-16 of an inch in thickness, and should have two or more

screw-holes countersunk in either end, but no nearer than 1-4 inch to the end of fragment, or else the screw will tear out. The screws should be of various lengths and sizes. A No. 6 flat-headed machine screw will usually be suitable for a fracture of the femur. Screws should penetrate only one side of the bone and should not enter the canal.

A free incision is made over the site of fracture, the muscles separated and the fracture exposed. It is better to clean out all blood clots. In case of disturbed circulation, look for and relieve the cause; it is usually due to pressure on the main artery, or injury to it. In recent fractures little difficulty will be experienced in reducing the fragments; the longer after the injury, the harder will be the placing in apposition of the fragments, due to the shortening of the tissues. By the use of instruments, and traction, made either by assistants or by weight and pulley, the fragments are reduced. If weight and pulley are used, considerable weight may have to be employed, usually 100 to 150 pounds. A wait of five or ten minutes produces enough stretching of the contracted tissues, which should be stretched sufficiently to allow no strain to be put upon the plates. Endeavor to so place the fragments that there will be no tendency to slip. Occasionally, the fracture may be impacted, or fit so accurately as to require no bone plate or wire to hold it in place. If not, select proper plate, put on embracing clamp to hold plate and fragments, drill holes with a drill a little smaller than screws, and fix plate with screws. Plates may be placed over the periosteum, as results seem equally as good as when they are placed directly to the bone. Close wound with catgut, eliminating as much dead space as possible. A small drain of rubber tissue may be placed in either angle of the wound, but is not essential. Serum will be discharged freely for the first twenty-four hours. Dressing is then applied to wound, and the limb is encased in plaster, with the utmost care in the handling of the limb. The plaster is cut so that the side of incision is exposed for subsequent dressings in case of infection. If infection occurs, it is usually mild in character, the staphylococcus pyogenes or staphylococcus epidermis albus, as a rule, being the infecting organisms, and hence the infection involves only the superficial structures, and soon clears up upon evacuation of the pus. Deep infections are more serious, and sooner or later require removal of the plate. It should be borne in mind that, even if infection is present, the longer the plate remains the better the chance for union.

I feel that a brief mention should be made of the Parkhill clamp and its modifications. This clamp consists of two long screws that

are placed in either fragment through minute incisions, and then, after reduction of the fragments, are fastened by an external plate. A brief study will show that this method has all of the bad features of the open treatment with the bone-plates (with the exception that they can be removed without a secondary operation) and hardly any of the advantages of the open method. Morris has recently suggested nailing the fragments through a small canula, aided by a fluoroscopic screen, but the same objection applies to this as to the Parkhill clamp.

Now, in conclusion, I would say, given a fracture that is being treated by a general practitioner, without special surgical training, and who is indifferent to surgical cleanliness—here the proper treatment must be conceded, for, as before mentioned, the conservative treatment gives a fair functional result. On the other hand, a skilful surgeon, with a properly equipped operating-room, will get results by an operation with an ease and comfort to his peace of mind that is unknown to one who employs the conservative methods.

USE AND ABUSE OF STRYCHNIA.*

By W. E. REYNOLDS, Hopkinsville.

I know of no more important subject and none of greater interest to the medical profession than the one I now present.

And in the beginning, I wish to beg an apology for the few scattering ideas and want of language to express them in a way that some bright mind may be stimulated to analyze and glean the errors from this all important remedy. And while I feel my incompetency, and I notice how little that has been added to modern literature about a drug of so much importance and so generally and continuously used, I am encouraged to contribute my little mite, hoping that it may be as the characteristic "crumb upon the waters." So far as the physiological action of strychnia, no one has attempted to prove any other action than that of the spine. That it effects but little, if at all, the cerebral cortical centers, and while this should be a very important part of this subject; that if we know more of the physiological effects, we would be less liable to make the many mistakes, yet my time is so limited and the practical part so important that I will not attempt to discuss this part of the subject, but mention a few of the many troubles for which strychnia has been prescribed.

As a tonic, it fills its place equal to any member of the family and frequently the only one incorporated. As a stimulant it is one of the best, both heart and respiratory,

*Read before the Christian County Medical Society.

most lasting and constant. In gastro-intestinal troubles, known as tropid liver, when stools are of a light color and have an offensive odor, showing absence of bile, when the tongue is coated with thick fur, patient complains of headache, feebleness, loss of appetite, bad taste, small doses of strychnia will often act as well, if not better, than mercury. Some forms of epidemic diarrhoea and dysentery are frequently controlled by strychnia. Constipation, due to atony, is relieved by stimulating the muscular coat of the bowel. A valuable remedy in acute as well as chronic alcoholism, checks tremors and relieves delirium, lessens and removes the craving for stimulants. Is the sheet anchor in all antifeen habits of every description. Amaurosis, due to excessive use of alcohol or tobacco is particularly submissive to strychnia in more or less large doses. In progressive lead palsy, large dose of strychnia will check the progress of the disease. Morning sickness may be relieved by small doses. Eye strain from insufficiency of the ocular muscle is relieved by strychnia. It may be given with decided benefit in the doloreau and some other forms of neuralgia. In some forms of post-partum hemorrhage, nothing more reliable for contracting uterine muscles and keeping them contracted than strychnia. But by all means be sure you have no symptoms of puerperal eclampsia, for if you have, just so sure you will have convulsions, and with decided much more deleterious effects. Strychnia is often prescribed for paralysis due to apoplexy and I have know it being given in the acute stage, which as I see, we could only expect a greater blood pressure and more destruction of nerve and brain matter. In the chronic form, which is after all brain substance that has been destroyed have been absorbed with whatever nerve endings or roots that are included in this brain matter and nature has in spite of all we could do repaired this lesion, by pouring out a plastic lymph in and around this ruptured artery. I would like to ask the Doctor, what good he could expect of strychnia for a nerve that has dead roots and if there isn't some danger of another laceration of the tender repaired blood vessel? Now I have seen repairs completed weeks, months or a year, after a stroke of apoplexy. This is not nerves that have had the roots destroyed by the lesion, but those that have been pressed on by destructive matter and lymph poured out for protection and repairs. When after removal of this pressure by absorption then those nerves become again useful. I never give strychnia at all in the acute stage and if in the chronic stage, in very small doses. We are all in the habit of selecting strychnia as a stimulant in every case of anemia, loss of vitality, prostration or shock from any cause

without stopping to think of its physiological effects. My experience is, if you have or may have contractions or rigidity of the muscles, you had better let strychnia alone. I was once called to see a little boy that had a convulsion. The family was so excited that I could not get anything by which to base a diagnosis. I only had a patient prostrate, feeble, and frequent pulse. My first thought was a hypo of strychnia. Well in due time I had tonic contraction of the muscles and you would have to have been versed in mathematics to have told who had the most convulsions, me or my patient. In all forms of bowel trouble where we have an excessive amount of toxic poison absorbed with emaciation and a very feeble and frequent pulse, with contraction of muscles so closely resembling spinal meningitis that some of the most eminent physicians have mistaken the disease. In such cases strychnia would only add to your rigidity and contraction of muscles and lastly convulsions, and death, and instead of lessening the frequency and increasing the force of the heart's action, it is just the reverse. We have systolic action of the heart without a corresponding diastolic action, consequently the force and volume is compensated by frequency. I have my doubts about the efficiency of strychnia in typhoid fever of a low type with subsultus tendinum. These symptoms are *prima facie* evidence of great cerebral irritation and debility caused by absorption of toxic poison and want of pure blood supply to the brain. While I once heard a very distinguished physician say, as soon as he discovered prominent symptoms of typhoid fever he commenced strychnia. This would be a grave mistake in any disease, although this error is often made, as we would lose to a considerable extent the stimulating effect of smaller doses, and when we needed the stimulant, we would have to give more, and if for no other reason the exciting effects on nervous system by large doses. I think in nervous hysterical women, strychnia has been added to the prescriptions to either counteract the good effects of the drugs incorporated, or do harm. She may be, and most always is, anemic, yet her nerves are excited and if we give enough strychnia to effect her, it will be to increase the excited nerve. Strychnia should never be given during presence of acute symptoms of inflammation or congestion of either the spinal cord or of its meninges. Strychnia antedotes the poisonous effects of many useful drugs, as chloral, physostigma, cocaine, opium, etc. In opium poison, it is recommended by some physicians as a preference to belladonna. I think in opium poisoning, it is very good, but in all drugs that terminates the blood from the brain. We should be very careful that we do not get the

poisonous effects of strychnia before we get the beneficial effect, as I believe we get a more contracted effect on the heart in anemic brain with strychnia than benefits otherwise. So in trying to relieve the one poison, we get a worse poison of the other. Last but not least, I condemn the administration of strychnia before or preparatory to an anesthetic. If given in large enough doses, we will have rigidity of the muscles and carry symptoms all the way through the operation.

Much more could be said that I have not mentioned on this subject, but my time being limited, I will not worry you further. Hoping that you doctors may ravel this paper to a frazzle and glean what ever may be useful and if I shall have advanced one idea of useful knowledge, then with all the criticisms you may have alleged, I will have been more than repaid.

CRETINISM WITH REPORT OF A CASE.*

By G. C. RANKIN, Walton.

It is my purpose to present for your consideration a subject not new, but one that is ever interesting to us all; first, because of its rarity and of the certainty of the victim growing worse every day until relieved, and lastly because of its easy relief and treatment. Picture to yourself the sorrow, the grief and disappointment that is depicted upon the face of a mother when told that her child is an idiot and can not be cured.

The origin of the term cretinism is shrouded in obscurity. The probable derivation of the word seem to be from *cretina*, meaning stupid, or silly. Cretinism is a rare form of idiocy, usually occurring in infancy or early childhood. It may be either congenital or acquired, and sometimes occurs in adults when it should be called myxedema, the only difference between the two forms of the one disease being the age of the patient at the inception of the symptoms.

HISTORY.

Cretinism was first described by Plater in the year 1500. Hofer, afterward physician to the Austrian court, made some studies upon the subject in 1675. Fogge, in 1871 and 1874 reported numerous cases occurring in England, on the continent of Europe and America, showing the sporadic cretinism is not confined to any country.

ETIOLOGY.

It is now well established that this condition depends upon the absence of the internal secretion of the thyroid gland. The cause of the absence of this secretion is evidently some influence residing in the locality where

the disease prevailed. Heredity has doubtless something to do with its production in families but healthy individuals moving into the infected regions beget children who are, if not pure cretins, are goitrous and dull of intellect. The specific cause of cretinism though confined to fairly well defined locality has not been determined.

PATHOLOGY.

The pathological anatomy of cretinism is as variable as the cases examined are in the mental or physical manifestations. The skull is usually microcephalic, the bones are thickened. Premature ossification of the sphenobasilar bone was claimed by Virchow to be the principal abnormality of cretinism, preventing the proper growth of the base of the brain. The convolutions of the brain are of the most simple type and the sulci shallow and undefined.

SYMPTOMS.

The symptoms of cretinism in most cases make their appearance during the first year of life, but are sometimes so slight as not to be noticed until children are two or three years old, and exceptionally not until the seventh or eighth year. The general appearance of a cretin is so striking, and so characteristic that when once seen the disease can hardly be failed to be recognized. The body is greatly dwarfed and children of fifteen years are often only two or three feet in height. All the extremities, the fingers and toes, are short and thick. The subcutaneous tissue seems very thick and boggy but does not pit upon pressure like ordinary oedema. The facies is extremely characteristic. The head seems large for the body, the fontanel is open until the eighth or tenth year, the forehead is low and the base of the nose is broad, the lips are thick, the mouth usually open and the tongue usually slightly. The hair is coarse and straight and usually scanty. The teeth appear late and are apt to decay early. The abdomen is large, pendulous and resembles that of rickets. The skin is dry and harsh and eczema is common. One characteristic symptom being a subnormal temperature in a cretin who had pneumonia, all of the physical signs being present, but the temperature per rectum ranging from 95 to 99 throughout the course of the disease.

DIAGNOSIS.

This disease is not liable to be confused with any other but rickets. The low temperature, the facial expression, the skin eruption, and the dullness of intellect are enough to differentiate the two diseases.

PROGNOSIS.

Until within the last few years they have been considered hopeless. A sufficient num-

*Read before the Boone County Medical Society, November, 1911.

ber of cases have now been recorded to establish the fact that the thyroid extract is a specific remedy for this disease.

TREATMENT.

In as much as the etiology of cretinism is well established, it is not difficult to arrive at a proper system of treatment. If it is due to the absence of a substance, which normally is supplied by the thyroid glands, the scientific treatment would be to supply this necessity to the cretin, and thereby promote normal metabolism. Thyroid grafting has been done in a number of cases but without good results. Grafting has for its object permanent relief but only gave temporary results. Murray, first used subcutaneous injections of thyroid extracts or emulsions with good results, and a series of cases were reported by this method in the hands of numerous observers. Howitz, fed myxedemic patients with thyroids raw, partially cooked, or desiccated. The procedure is perfectly justifiable, not only by clinical results but by the fact that in lower animals and in the human embryo the thyroid glands furnishes a secretion to the alimentary canal by a duct opening at the foramen secum at the base of the tongue. The sheep's thyroid is habitually employed and is now an article of commerce in the form of various powders and tablets. When administering thyroid extracts it should be pushed to the physiological limit and a dose regulated according to the results desired. Parke Davis & Co., have on the market a thyroid preparation in powdered form, under the names of "Thyroids." By the use of this preparation I have been able to restore to health both mentally and physically, one unfortunate little girl whose history I now briefly give you:

Alma H., was brought to me by her mother for an eruption on her body in July, 1910.

Family History.—Father and mother both living and in good health. Has one infant brother in good health. No consumption, syphilis, or goitre in the family.

Personal History.—Age four years, sex, female, color, white. Had none of the diseases of childhood. Height 28½ inches; weight 30 pounds; head large for a child of her age; abdomen 23 inches; anterior fontanelle not closed; scanty coarse hair; eczematous eruptions; thick lips with tongue protruding; pedulous abdomen resembling that of rickets; lumbar lordosis; temperature per rectum 96.5. This child had never been able to walk without the aid of some one else, and had never been able to talk. She had at this time only four teeth. Childish games or plays of any kind were not fascinating to her, and she took no part in them.

Diagnosis: Cretinism.

Treatment was begun July 12, 1910, by

giving Parke Davis & Co.'s thyroids in one half grain doses twice daily. I had her brought back to my office once every two weeks in order that I might be able to recognize any improvement. On July 26 there was but little change, excepting a slight loss in weight. I then increased the dose to one-half grain three times a day. On August 9 the scales showed that she had lost three pounds in two weeks. Her mind was much brighter, appetite improved, rectal temperature normal, had cut two teeth and grown three-quarters of an inch in height. She was then brought back for examination September 8, with such marked improvement that I hardly recognized her. She had grown one inch and a half, making a total of two and one-quarter inches since the beginning of treatment. The edema had entirely disappeared and she was able to walk alone. Her mental condition did not seem to improve in proportion to her physical. To be able to illustrate the condition of this patient at the time treatment was instituted I present for your inspection a photograph. This photograph was taken the day before the beginning of treatment. The parents of this child being very ignorant I was unable to impress upon them the necessity of continual treatment, therefore I am not able to show you the photographs of this unfortunate child as she improved, as I had intended to do at the beginning of treatment.

It is the opinion of the essayist, based on this personal experience, and the recorded experience of others that by the careful use of this remedial agent, cretins can be completely transformed into intelligent men and women, and that no case, however grave, is beyond the reach of its marvelous influence.

PNEUMONIA.*

By J. P. WELLS, Meek.

As this is the season in which we have the greatest number of cases of pneumonia to treat, I desire to call the attention of the profession to the marvelous results achieved in its treatment by the use of creasotal.

I wish to state in the outset that whatever I may say in regard to pneumonia and its treatment by creasotal is based upon absolute facts, for I have kept no record of cases except those in which a positive diagnosis could readily be made from clinical symptoms and physical findings.

Having been taught that pneumonia was a self-limited disease—running its course regardless of treatment—and that the most we could hope to do for our patient was to get him in the best physical condition possible and by a proper dietary, supportive measures

*Read before the Pendleton County Medical Society.

—fresh air, etc.,—assist him to withstand its ravages until he had successfully passed the crisis. But now, we approach our pneumonia patients with a full assurance of faith that we have a remedy that comes as near being a specific as it is possible to get.

As to the etiology, pathology and diagnosis of pneumonia, I shall say nothing, for surely no man who bears the grand distinction of Doctor of Medicine would attempt to treat a disease that is so prevalent and with such a high rate of mortality as pneumonia without having a thorough knowledge of its pathology, diagnosis and treatment in all its forms and complications.

I shall confine my remarks especially to the treatment of pneumonia, and the results I have obtained by the use of creasotal. I have used it in the frank, open lobar pneumonias beginning its use in all its stages, also in the secondary lobar and broncho-pneumonias complicating other conditions; have used it in all ages and have never failed to obtain immediate and unmistakable results.

While it is true that there is no routine treatment for pneumonia—every case by reason of constitution, severity of the infection, complications, age, and whether it be primary or secondary, being a law unto itself; but what I wish to impress is the fact that creasotal is the remedy *par excellence* for pneumonia in any form, of any type of severity, at any stage and at any age. True, the diet, hygiene and general management of a patient suffering with pneumonia is of the utmost importance. He should be in a well-lighted, well-ventilated room—preferably by an open window; should have an easily digested, nutritious diet—bowels, kidneys and skin should be kept active; high temperature combated by hydrotherapeutic measures; excessive pain and restlessness quieted by hypodermic administrations of morphia et atropia. I employ counter irritation over entire chest by means of mustard plasters applied until skin is fiery red—three times a day—throughout the attack, and believe it a logical procedure. In sthenic cases when seen in the first stage, I invariably perform venesection, until pulse becomes soft and compressible, and have found it followed invariably by relief from pain, cough and dyspnoea. In those who are not so robust, use aconite until circulation is thoroughly impressed.

After this initial treatment I begin the administration of creasotal every four hour in 30 to 40 minim doses. Temperature usually drops from 103 1-2-104 1-2 to 100 or 99 1-2 degrees in 48 to 72 hours, pain ceases, rusty sputum stops, cough is no longer distressing, general appearance much improved, and convalescence is quickly established, and patient makes an uneventful recovery.

As a matter of course the earlier in the course of the disease the administration of creasotal is begun, the more decided and satisfactory will be the results.

A word about the preparation of creasotal used. The American product is no good, but the foreign product sold in this country by Farbenfabriken of Elbedfeld Co., New York City, is the only product that will give you the results outlined above.

SEPSIS AND ANTISEPSIS.*

By J. F. DAUGHERTY, Demossville.

This is an age of aseptic and antiseptic surgery. Hence modern surgery banishes septic inflammation and pus from her free wounds. We find ourselves able to control our surgical results. Pus in a clean cut wound means some error has been made in some part of the surgical procedure. But is this the case with septic surgery?

This great field of surgery appeals more closely to the general practitioner than any field with which we have to deal for more of these cases than any other fall into his hands. Therefore I shall discuss wound of exposed extremities, septic germs in great numbers and with irresistible virulence have entered the tissues and are working their destructive influence both locally and on the general system. The tissues locally are fighting a losing battle against the germs and the vital centers are suffering from the poisonous influence of the virulent toxins that are constantly being formed at the seat of germ activity. Surgery here becomes absolutely essential. First, the germs must be removed from the tissues or conditions must be rendered unfavorable to their continued action and, second the fighting power, the vital resistance, of the tissues and of the individual must be constantly maintained at the highest value.

When reference is made to the brilliant results of present day surgery it is usually to the aseptic results, but I am sure that results quite as definite and quite as positive have been attained in the field of septic surgery, and that we now treat our septic cases in a manner which is as highly superior to the older methods as are the methods of dealing with aseptic cases.

Septic conditions of the extremities may be divided into, (1) that condition known as cellulitis or blood poison, which may occur after the smallest scratch; (2) machine, gunshot wounds, and other wounds in which septic inflammation develops. These two varieties of septic wounds will be considered separately.

The first variety, known as an ordinary

*Read before the Pendleton County Medical Society.

felon, which develops from a puncture wound of the pulp of the finger, or from a hang nail either of which is so insignificant nine times out of ten patient will not remember receiving original injury, the finger becoming painful and slightly stiffened, redness appears at the site of the original injury and rapidly extends to the higher phalanges, swelling supervenes, both in the finger and in the hand, lines of redness run up the hand and arm, the patient is feverish and suffers from headache, loss of appetite. Pain soon becomes so severe he can not sleep and must walk the floor. What has taken place? Pathogenic germs have been introduced into the wound and have continued to multiply within the tissues. These germs in their process of growth have developed toxins which in turn act upon the walls of the capillaries and small veins of the tissues, the endothelial cells lining these vessels are paralyzed or degenerated, the cement substance between the cells become soft and the vessels "spring a leak," serum passes out into the tissues through these openings, white blood cells follow in large number and later red blood cells; this we call the exudate. From this cause the tissue space becomes swollen, the nerve endings are severely pressed upon and give pain and at last the blood stream is arrested. The toxins formed by the germs have acted upon all the tissues with which they have come in contact in the same manner they acted upon the endothelial cells and capillaries, and have caused every grade of degeneration up to death of the cells. When a retarded blood stream or a complete stasis of blood is added to the lesion it is a fact that these already dying cells are robbed of their nutrition and thereby of their power to fight the bacterial invasion. Now, at this stage of inflammatory process, it will be apparent that we have in a finger a tissue crowded full of serum, fibrin, red and white blood cells. Now as the exudate and tissue cells are badly degenerated, or entirely killed by the toxins of the bacteria and as the blood stream has become very slow or closed we are on the verge of a condition known as a peptonizing ferment which is regularly developed, coinciding with the pus forming germ. These ferments act upon the degenerated and necrotic tissue and dissolve them into one fluid mass which is called pus.

These germs do not confine themselves to this site but are transformed centrally through the lymphatic streams or along the plane of least resistance and progressively invade more tissue, sometimes with a rapidity that is alarming, as soon as the germs invade new tissue the same change as has been described continues. Lastly the toxins manufactured by the germs are taken up by the blood and are transformed to the vital cen-

ters of the body and produce the most grave constitutional symptoms.

TREATMENT.

Patients present themselves at almost every stage of the development of a felon, from the first pain at the site of injury to the point when almost all the tissue has been destroyed beneath the skin including the bone.

The invariable treatment for felon is free and liberal incision down to, but not necessarily through the periosteum. As felon is a painful affection many will apply for treatment before there is any pus formation, in cases of this kind make a free incision through the point most tender on pressure. When about to incise a finger, first apply 4 per cent. cocaine solution, begin by anesthetizing first the skin near the dorsum of the finger and using the "wheel method" of injection, continue till the area to be incised is rendered painless, or some surgeons claim to have good results from the use of ethyl chloride, but will say it has not proven satisfactory in my hands while if cocaine is properly used only the first prick of the needle is all that should be materially felt.

When incising a finger aim to get the point of tenderness but keep as near the side of the finger as possible to maintain the tactile sense of the finger. The first incision in an early case should extend to the periosteum; after the first incision is made and there is no relief from pain, another and larger should be made. When the infection involves the palm of the hand incision should be carried out as outlined above; such incisions are usually made along the line of the metacarpal bone, long and deep, use either cocaine or general anesthesia. The treatment should be, after incision, dressing with bichloride, carbolic acid or aluminum acetate lead solution, in ratio of 1 to 5000, 1 to 100 and 24 grain aluminum 38 grains lead acetate to one liter of water, respectively; use the solutions by bathing or by gauze wet with same and applied locally. Watch finger in healing process as by the tendon shortening a finger may become bent upon itself and remain so through life. This deformity can be prevented by keeping the finger on a small board during convalescence. So much for felon and palmar abscess.

The next subject we take up is that of diffuse cellulitis (infection) that takes place in various parts of the exposed extremities through scratches, bites of insects, blisters, etc., or through perceptible wounds and spread rapidly to other parts. These infections are either mild or severe according to number of germs of the streptococcic variety, the pathological lesion is a diffuse lymphangitis and cellulitis without any pus formation focus.

The redness is likely found to have its be-

ginning from a small scratch and rapidly spread, red lines run up the arm, the lymphatic glands are enlarged in axillary region, constitutional symptoms vary according to amount of streptococcic germs present and amount of tissue involved. Will illustrate by case Dr. Ed Wilson saw with me last winter: Woman, age 58 years, small scratch between knuckles of small and ring finger. When first seen temperature 104, wound painful, surrounded by reddened and swollen tissue, gradually extended up arm taking the nature of erysipelas, and died on the tenth day.

The appropriate treatment, if it is an open wound, is bichloride 1 to 2 or 5 mm., or if there is no perceptible wound use aluminum lead acetate sol., either hot or cold according to the will of the patient. Patient should be put to bed, bowels should be freely moved with calomel and salts, if in 10 or 12 hours patient is not improved, many deep, long incisions should be made in forearm to prevent infection. As stimulant, strychnia and whiskey are the main help, serum therapy may be tried.

The treatment of every accidental wound of the extremities, no matter how trivial, should be the same as an infected wound. In machine and many other kinds of wounds, dirt and debris should be removed from wound and use prophylaxis. Infection of wounds like the above named may be divided into (a) mild infected wound only a small area around it involved, and (b) an infection of entire wound.

In the first variety the patient will have a slight fever, 99 to 100 degrees. To treat this class of wound, remove dressing and use bichloride dressing after opening up the wound freely.

For severe wound infection, where fever is higher than in light infection, more prostration, dry tongue, chilly sensation, pulse fast, fast breathing, open up the wound, remove sutures, clean out with bichloride and use as often as needed, alternating with carbolic acid solution or lead and aluminum. Internally use supportive treatment.

SETICÆMIA.

This is fortunately an extremely rare complication of operative wounds and is seen mostly in those wounds where infection has been carried in at the time of injury and has gained headway before surgical aid had been sought. The symptoms of this severe form of wound infection comes on in a few hours after a traumatic wound or one just described under the heading of infected wounds. The condition usually begins with chill, elevation of temperature, increasing pulse rate and pain in wound and neighboring lymphatic glands. There is loss of appetite, nausea, vomiting, dry coated tongue, remittent type

of fever 99 to 104 degrees, nocturnal perspiration, which may be profuse; patient becomes weak and emaciated, joints become painful, metastatic abscess may occur in any part of the body, developing very rapidly.

TREATMENT.

Treat wound as above outlined. Give albuminous foods, large quantities of water, urotropin to open kidneys, move bowels with salines, salicylic acid or better, salicylic soda and quinine to counteract the septic process.

TETANUS.

This affection is likely to occur in any wound of the exposed extremities and more particularly in punctured wound made near barnyard manure. It often occurs after wounds made with toy pistols, blank cartridges, etc. When such wounds present themselves to us we should cauterize them with nitric acid or chloride of zinc 10 per cent. solution.

The next subject, and the last I shall mention, is dog bites. Being so much alarm from hydrophobia at the present day, this form of wound should receive more than passing notice. When a wound of this character is received it should be at once cauterized with nitrate acid or zinc chloride. Dog should be penned up for a few days and if he be rabid symptoms of such disease will present themselves in a few days and the dog will die in ample time to begin Pasteur treatment for hydrophobia. If the dog is killed as is often the case, remove the head and as much of the spinal cord as can be obtained and send it to the State Bacteriologist, Bowling Green, Ky., for examination. A great number of wounds received from pet animals need not be cauterized, but will do well if treated antiseptically.

NEEDS FOR OUR KENTUCKY ASYLUMS FOR THE INSANE.*

By R. W. WOOD, Lexington.

Life with its sorrows shows none so sorrowing to the human family as the mind dethroned. The causes are many that the state must stand sponsor. But then this report is not on the causes or treatment of insane any more than is necessary to show the present as well as future needs in asylum or state hospital. True a bad workman complains of his tools and I being one of the workmen get full benefit from the public for failure to return a greater percentage to their families, but if you will realize that the family physician has failed in result and no provision in the law to give us the history from physicians who have had patient under observation perhaps years. No lunacy commission. No physician necessary at the court where this unfortunate is

*Read before the Boyle County Medical Society.

tried. If a physician is called as a witness no provision is made for expert testimony, a copy of which should accompany every patient to the asylum. This failure in the law is one of the greatest drawbacks to asylum physicians as well as to keeping statistical records for study of causes for insanity that the family physician may, through them, better advise the homes. The lack of money bars many plans that the present management of asylums would like to inaugurate: Hydro-therapy, electro-therapy, physical culture under a trained physician, better segregation of patients, etc.

Now to the needs of asylums. I may ask too much of the State but if the medical profession will study this question closely I believe they will agree with me in great part in establishing one central psychological hospital where patients shall first go to remain not less than thirty days or more than ninety days. This hospital shall be a model in every way, with perfect laboratory, hydro-therapy, etc. With abundant number of physicians and nurses that each patient shall have special personal notice as to history, both personal and family, with all social and business of the patient's life. Now, after this perfect examination and patient does not recover in the thirty days he may be sent to the asylum or hospital located in his district. He can, however, be kept for ninety days but must be transferred or discharged at the end of this time.

This central hospital is to receive any one on their request with certificate of two physicians and payment in advance of fees for ninety days. Any unused part to be returned to patient when he goes home.

The cost, however, is to be thirty dollars per month instead of the present sum of only twelve and one-half dollars per month. Thus many of limited means could be treated without the necessity of a trial at court. If the necessity of trial at court at least two physicians must be called, whose duty it will be to thoroughly examine patient and family history and the findings of these physicians must be put in writing and sent with patient to this central hospital where a more complete examination including the laboratory examination will be held. When patient is to be sent to district hospital a copy of all records must accompany him. True many of these measure may be added to the present asylums and I hope they will be, but first let us put up this model central psychological hospital for three hundred and fifty to five hundred patients and prove the advantage then the people through the legislature will be willing to grant the appropriation needed for the present asylums which has so long been withheld. Stop one moment and think the sum

of twelve and one-half dollars per month, per patient, paying for the food, clothing, heat, lights, housing, bedding, physician and nurses. In fact every necessity for a patient at the magnificent sum of twelve and one-half dollars per month and everything at the present prices. I am glad to say that the past three years has seen vast improvement in the asylums of Kentucky, but oh, how many things are to be done and can be done but for lack of money. I ask the profession, can you do all you would love to do with forty patients at the point of death or convalescence from some physical disability and two hundred others who are insane and with many minor physical disabilities and yet this is the condition of the Eastern Kentucky Asylum for the Insane and I feel sure that the same conditions present themselves to physicians at the other asylums of the State. Is this not penny wise and pound foolish on the part of any state that does not furnish these necessities? *

Segregation of patients is one of the prime necessities of any asylum, yet owing to construction at the Eastern Kentucky Asylum it is impossible for the present management to properly classify patients. Building constructed eighty-four years ago and still in use. Others built under the crude sanitary idea before the Civil War. But then the pressing needs at asylums will be no doubt brought out by the Board of Control and the superintendents of asylums to the attention of the people and legislature. These two questions I wish to leave with the medical profession—the Lunacy Commission with two physicians as witnesses and examination of every patient and this central psychological hospital. You may differ with me, then speak out for there surely is need.

After a study of these questions for nearly three years I would say with a conservative board an appropriation of from fifty to sixty cents (jailers receive seventy-five cents per day for feeding their prisoners) per day, per patient, for district hospitals and one dollar per day for central hospital this work could be carried on in a high class way. Citizens saved, homes made happy and Kentucky blessed.

Iodin in Exanthematous Typhus.—Uftogeanin-reports fourteen cases which added to Jaworsky's forty-one brings to fifty-five the number of exanthematous typhus patients treated with tincture of iodine internally, three or four drops three or four times a day, taken in red wine. The disease was unmistakably modified by the medication and evidently much for the better in the entire group, he says.

PAIN AND ITS SIGNIFICANCE.*

By A. M. HAYDEN, Evansville, Indiana.

I am delighted to have the opportunity and honor of addressing you on this occasion. I understand that this is an open medical meeting to which are invited the bar, clergy, laity and all who may be interested; and in selecting a topic for discussion I have tried to select one, that unfortunately we each will sooner or later be seriously and vitally interested in. The subject is "Pain and Its Significance."

During my remarks on the subject of pain I will refer particularly to a few of the diseases that are characterized by an unusual amount of pain. While doing this I may digress somewhat from the main subject of the paper.

Pain is bodily suffering due to irritation of sensory nerves or to changes in the central nervous system. Pain in itself is not a menace to life and should not be so regarded, but looked upon as a friendly warning of a possible approach of diseases that might prove fatal if the conditions of the system responsible for the pain are not removed by judicious management and treatment.

The nerve terminals act as sentinels to guard the body from external violence, just as pickets are thrown out around an army to guard it from surprises and destruction. Pain is not always located in the organ that is responsible for its existence, but frequently in organs remote from the seat of pain. This should always be borne in mind in seeking remedies for its removal.

For instance, migraine or headache, is often due directly to a disordered stomach, disturbed conditions of the circulation, abnormal increase or decrease of blood supply to brain, a deteriorated or vicious blood supply to brain.

To relieve headache caused by a disordered stomach our remedies should be directed to that organ. If the pain is due to disturbed circulation, the cause should be searched for and removed if possible. This disturbed circulation may be due to a fever, in this case we determine its nature whether typhoid, malarial or due to some organic lesion such as tuberculosis, abscess or some local inflammatory action in some organ of the body. In any of these cases appropriate remedies should be applied.

A poisoned or vicious blood is often due to organic lesions of the kidney such as nephritis commonly known as Bright's disease. This disease disables the kidneys and renders them incompetent to perform their normal functions, which is to eliminate through the

urine the poisonous waste matter of the body. The principal part being uric acid. This substance being retained in the blood produces uremic poisoning resulting in headache and later convulsions and death.

Notwithstanding all these various and widely different cause of pain in the head or headache some of the laity believe they can go to a near-by drug store and secure a sure cure headache powder that will cure any pain in the head. In case they happen to get relief after taking one of these powders they are quite ready to recommend it to all their friends who may be suffering with pains in the head, and accompany such recommendation with a guarantee for a sure cure. Now any one who will stop to think for himself just a little bit will readily see how absurd it is to presume for a moment that there could be a ready made remedy that would answer for a cure for all these different forms of headache or pain in the head produced by so many and widely varied causes. They at once would understand that if there was such a remedy it must necessarily contain what is commonly called dope. This being the case they should also know that any treatment containing opiates or dope and not directed to the cause of the disease must necessarily be injurious.

It is well known to the medical profession that the earliest symptoms of hip-joint disease is a pain in the knee. The patient will complain of a persistent pain in the knee and will endeavor to associate the cause of it with some accident or injury it has received and will often persuade himself that he remembers some slight bump that he has given it, with this belief he goes on waiting for it to recover, considering it a small matter. Finally he decides it is not improving as fast as it should and consults a surgeon, who finds the hip joint so badly disorganized by organic disease that he will be a hopeless cripple in spite of all the surgeon can do. I would advise those who have children, in case any of them complain of a persistent pain in the knee, to at once consult a physician or surgeon. I say children, because this disease occurs more frequently during adolescence than any other period of life. While hip disease is very intractable and often results in crippling its victims, most cases if taken in their incipency and properly treated by extension, will terminate in a permanent cure without deformity.

The pains in appendicitis are often referred to the epigastric or stomach region, the umbilical region, and sometimes in the left side, which, of course, is misleading to the laity and often to the inexperienced physician. In this disease, however, in a day or two the pain subsides to a soreness in the right

*Read before the Henderson County Medical Society.

side over the region of the appendix. Too much reliance must not be placed on the pain as a diagnostic asset in this particular disease. While you may have extreme pain at the onset this often subsides in a few hours and leads the patient, as well as the physician, to believe that he is convalescent, while in fact, the disease is rapidly progressing toward perforations or gangrene of the appendix. This, of course, is a very serious complication. In fact a sudden cessation of pain in these cases often indicates gangrene of the appendix, the parts dying, cease to be sensitive and no longer cause pain, even though the disease is progressing. Patients suffering with appendicitis usually have a great deal of pain and are insistent upon having some remedy, such as opiates, for immediate relief. This, as a rule, is a very dangerous thing to do because it lulls the pain, masks the symptoms and renders it impossible for the physician to know whether the patient is progressing favorably or continuing to grow worse. It creates a sense of security and well-being in the patient that often causes him to delay an operation until it is too late to be of any value to him.

Gall stone pain begins suddenly, at the moment a stone passes from the gall bladder into the cystic duct. At this time the patient is seized with a piercing, agonizing pain in the region of the gall bladder radiating over the abdomen and extending back to a point under the right shoulder blade. The abdominal muscles are cramped and tender; there is nausea and vomiting, a weak pulse, cool skin, pale, distorted anxious face and maybe fainting, spasmodic trembling chills or convulsions. The paroxysm continues for an hour or two to several days with remissions, but entire relief is not afforded until the stone reaches the duodenum or drops back into the gall bladder, when pain suddenly ceases. Jaundice usually follows the paroxysm of pain. When the calculi reaches the intestines or gall bladder the pain, nausea and vomiting cease, the appetite returns and the jaundice soon disappears. Should the calculi become impacted or from any reason fail to leave the gall bladder, a resulting cholecystitis follows and an operation removing the stone or stones and draining the gall bladder is indicated, and this is the only remedy that gives permanent relief.

Another fact in connection with gall stone trouble that should be borne in mind, is, that the prolonged irritation of their presence results in at least 4 per cent. of the cases terminating in cancer of the gall bladder and liver. This should all be considered in connection with all pain, trouble and inconvenience that the constant suffering caused by their mere presence. This should all be explained to the

patient suffering with gall stones when advising him concerning his condition.

While on the subject of cancer I will add that you are all probably aware of the fact that it is one of the most painful diseases the human family is heir to, and most people believe it to be absolutely incurable. My opinion is, that there is a time in every case when cancers can be cured by a radical operation. The unfortunate phase of cancer is, that the surgeon seldom sees a case during this period of the disease. The patient not considering it worth while to consult a physician until it begins to pain him and cause inconvenience. Many people go around for many years with a large mole or wart on their body. This should be removed for it is very prone to degenerate into an epithelioma or cancer. After this has taken place the patient begins to suffer pain and eventually seek said of the surgeon and has it removed.

He often has, as a result of the delay, a recurrence, this recurrence is due to the fact that the time for a radical cure had forever passed at the time of operation. To-day there are hundreds of women in the United States with small apparently harmless tumors, or lumps, in their breasts who never think of having them removed or even consulting a surgeon in regard to it, simply because they are suffering no inconvenience or pain from their presence. Many times my position has been assailed and I accused of wanting a fee, when advising a patient to have them operated upon. Now I wish to say that every abnormal growth, or tumor, situated in the human body is a menace to life and should be removed.

If it has not already degenerated into cancer then you remove forever the possibility of its ever becoming one at practically no risk. Quite often I have removed from the human breast what appeared to be a small benign or harmless tumor in which a careful microscopic examination revealed cancer cells. In these cases, the patient nor the physician had even suspected the possible existence of cancer.

In conclusion it would be well for one suffering with persistent headache to consult a physician instead of trying to cure himself by the continued use of headache powders, or some form of dope, which they usually contain. Persons having frequent attacks of severe pain in the region of the stomach even though of short duration, attacks of cramping in the bowels, or pain in the region of the knee that is persistent, would act wisely to consult their family physician.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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EDITORIAL

UNRELIABLE MEDICAL JOURNALS.

A recent editorial in the *Journal A. M. A.*, (Jan. 6, 1912, p. 36) emphasizes the fact that many medical journals are run in the interests of their advertisers rather than those of the readers. Regarding the "conspiracy of silence," which in the past has kept out of lay papers anything that might be detrimental to the patent medicine advertisements therein, it is said that "one of the most powerful chapters in the Great American Fraud series was that entitled, 'The 'Patent-Medicine' Conspiracy against the Freedom of the Press,'" by Mr. Mark Sullivan. Therein it was shown that the twenty millions or more dollars spent annually by the 'patent-medicine' manufacturers of the United States was expended not merely for what went into the newspapers as advertisements, but for what was kept out of the newspapers as news."

It is explained that newspapers when receiving contracts for patent-medicine advertisements were obliged to sign an agreement not to publish anything that might be detrimental to the interests of their advertisers and that as a result reports of poisonings or deaths due to patent medicines would be suppressed.

Exactly the same conditions exist in medical journalism as in lay journalism. Not altogether the same either. Possibly because the sums of money involved are not as large or for some other reason, the "silence clause," as such, has not, we believe, been brought into use in making advertising contracts with medical journals. But so far as the actual working of the matter is concerned it might as well have been. For although the fraud and chicanery connected with the so-called ethical proprietary business have been repeatedly exposed, practically none of the self-styled in-

dependent medical journals have given their readers any information regarding the matter. In the medical field, then the conspiracy of silence has been just as effective as in the non-medical—and the injury to the public probably almost as great.

The editorial then relates that some years ago in reviewing a report of the "Commission for the Study and Treatment of Anemia in Porto Rico" it was suggested that the day of blind reliance on iron, quinin and tonics in general in the treatment of anemic conditions was past. To this the exploiters of a proprietary iron preparation (Pepto-Mangen, Gude) protested vigorously against the publication of statements which would damage the sale of their product. The editorial acknowledges that "It was inconsistent for *The Journal*, which was exposing mendacity, editorially, to accept the advertisement of a preparation that was sold under mendacious claims." This incident is recalled to make evident the uselessness of expecting medical journals whose very existence—in some instances—practically depends on advertising contracts of proprietary manufacturers to tell the truth in their reading pages when such truth is against the interests of their advertisers.

That these facts obtained widely is further supported by reference to the suppression by practically all the so-called independent medical journals of the valuable reports regarding proprietary medicines which have been given out by the Council on Pharmacy and Chemistry because the products considered in these reports have been good advertisers.

We take this occasion to say that this *JOURNAL* does not belong to the "independent" class but that instead it depends on the medical profession for its existence and that to merit the continued support of the profession it presents those matters which physicians should know.

PASTEURIZED MILK.

No layman has ever accomplished much more for preventive medicine than has the Hon. Nathan Straus, the distinguished philanthropist of New York City. Like every other man who has done anything for preventive medicine, he has been hounded and misrepresented by the cranks and the misguided, and it is a pleasure to see him hit straight out from the shoulder at some of these as he does in the attached communication. After the publication of this challenge, it is up to the objectors to either put up or shut up.

"To the Editor:

"In the efforts that are being made to protect the babies from milk-borne diseases such as tuberculosis, typhoid and scarlet fevers, diphtheria, sore throat and summer complaint, the well considered policy of the Public Health Service and of the foremost health officers of the country is seriously hindered by attacks based upon ignorance.

"The statement is repeated with assurance, without proof, that the use of pasteurized milk causes rickets, scurvy and anaemia. People are scared by these outcries into exposing their babies to infectious diseases, and the lives of helpless little ones are forfeit.

"It does not undo the harm by showing that the Public Health Service after exhaustive investigation, declared that 'Pasteurization prevents much sickness and saves many lives,' and proves that the process does not impair the taste, digestibility or nutritive qualities of the milk.

"It does not protect the babies from reckless misrepresentation for me to point out that in feeding 25,000 babies with pasteurized milk through my infant milk depots in New York City alone, never has one case of scurvy or rickets developed. Nor does it still the voice of mischief to cite the experience of Dr. Variot, in Paris, who fed 13,000 babies on sterilized milk without causing these diseases.

"Several years ago when a famous physician who opposes anti-toxin and vaccination, raised this cry of scurvy and rickets, I publicly challenged him to produce one case caused by pasteurized milk, and he subsided.

"But the mischief of this warfare on the babies goes on, and many lives are sacrificed. If it could be known how many babies perish through their parents being misled by such statements made through recklessness or ignorance, editors would close their columns to such outbursts as they generally do to the tirades of fanatics who oppose vaccination.

"In order to bring this issue to an end, I offer through you \$1,000 for any case of scurvy or rickets or anaemia caused by feeding a baby with properly pasteurized milk.

"If any such case is alleged in answer to this challenge, I will leave the determination

of the facts to Dr. Rupert Blue, Surgeon General; Dr. M. J. Rosenau, Professor of Hygiene and Preventive Medicine at Harvard, and Dr. John F. Anderson, director of the Hygienic Laboratory at Washington, or any jury that they may choose."

"THE CASE OF BECKY."

On the 25th of January, this year, at Mauley's Theatre in Louisville, Davis Belasco presented "The Case of Becky," with Miss Frances Starr in the title role. Miss Starr was assisted by a little company of six players of unusual merit and ability. The play is a modern one, and deals with the question of dissociation or dual personality in hysteria. The popular conception of which is embodied in the idea of "Dr. Jekyll and Mr. Hyde."

The action of the play takes place at the home, or sanatorium of one Dr. Emerson, a specialist on nervous and mental diseases, a physician modern enough to realize the psychological side of the so-called "function" diseases of the nervous system. In reality, the play in its conception of the pathogenesis of hysteria is far in advance of a great many of the text books now upon the market.

The curtain arises, disclosing the elegant office of Dr. Emerson, beautifully furnished, and with all the modern case record histories, etc., so needful to an accurate understanding of cases. The second act, likewise takes place with this as the background, while the third act, the culminating and melodramatic one, occurs in his laboratory, which is in reality a psychological laboratory.

The animus of this editorial is to call attention to a well known fact that the doctor of stage life, is as a rule, grossly misrepresented, being usually a travesty upon the profession, and at best either an arrant knave or a blithering fool. With two decades and a half, of what I am constrained to believe is a discerning and appreciative view of the drama, I am glad to state, that to my mind, Mr. Albert Brunning's rendition of the character Dr. Emerson is the best acted physician that I have ever seen upon any stage. He is *par excellence*, the gentleman; high toned, modest, learned, devoted to his patients and his profession. He makes a thoughtful, dignified, real physician, the best type of specialist, the best type of man, and what is so essential and so necessary to one in his position, he does not lack that all essential qualification of real and genuine humor. It is indeed to be regretted, nay a thousand pities, that there are not more Dr. Emerson's and Mr. Brunings, to portray the medical fraternity as it is portrayed in this play. The medical profession is indeed indebted to Mr. Brunning for his interpretation of one of its members. It

looks like it were a gift of the giftie to let us see ourselves as others should see us.

Look upon that picture, and then upon this. Charles Dalton, nearly always good at anything he attempts, makes of Professor Balzamo a professional hypnotist, the typical and despicable quack. He plays Balzamo's blatant, breezy, brazen ego-mania, in a way that is masterly, for Balzamo, like all of his kind, fattens coldly on the weaknesses and miseries of humanity. Loud, coarse, and lacking in all the finer niceties of the conventional, ethical and cultured physician, Balzamo stands out as a character not likely to be forgotten in many years to come.

Miss Frances Starr has a most difficult role in that of Dorothy the good, and Becky, the bad. It is no easy proposition to transfer to acts, the psychology of hysteria, but this she does in most excellent fashion, though of course, to the reflective mind of one, who like myself, makes a special study of these conditions and whose life is thrown with them constantly, would consider at times, just a little overdrawn, but this is perhaps due to the fact that the pathogenic material with which she is working is so familiar. The layman would not labor under such a handicap.

Subtle exhibitions of latent character, the tinge of sexuality that is so delicately and subtly shown, would require one familiar with the Freudian doctrines to appreciate fully its subtle niceties and the remarkable capacity of her acting; a hard part, well played.

The other members of the company give a finished rendition of the minor parts. The total *ensemble* makes one hope we may see this group of players attempt some other psychological stage work along this line. In conclusion, I feel that Mr. Edward Locke, the author of the play, has rendered plain a most difficult subject, and taken "all in all," has produced a play of unusual merit. "Here's hoping that he may live long," and ever bear to the medical profession the same kindly feelings that he has put in his character of Dr. Emerson, and it is to be hoped that the medical profession will in their turn, feel gratitude toward the man, who has pictured them in what might be justly termed, their true colors.

CURRAN POPE.

Iodin in Exanthematous Typhus.—Uftageaninoff reports fourteen cases which added to Jaworowsky's forty-one brings to fifty-five the number of exanthematous typhus patients treated with tincture of iodin internally, three or four drops three or four times a day, taken in red wine. The disease was unmistakably modified by the medication and evidently much for the better in the entire group, he says.

IN DEPRECATION OF THE NEGLECT IN GENERAL BY PHYSICIANS OF THE MEDICINAL TREATMENT OF DISEASE.

I.—THE TREATMENT OF MALARIAL DISEASES.

(CONTINUED).

Dr. Austin Flint, Sr., appears to be the only American text-book writer of prominence to accentuate this feature of our indigenous tertian infections. Few indeed of current manuals of practical medicine refer to it, although there is occasionally repeated in them popular impressions about relapses on the *seventh* day. I cannot but ascribe this to Hebraical prejudices and predispositions ascribable to the Bible. I can, on the other hand, base the twenty-first day relapses upon definite facts within my own experience; and I believe that they are explicable by biological factors relating to the action of the *Plasmodium malariae*. I hope and expect that C. C. Bass's cultivation of this germ will aid us greatly in elucidating this point upon average human beings.

In my work aboard cruising men-of-war, I have been able to prove fairly exactly that *twenty-one days* is the incubation period in man of the tertian organism. This was true of my own infection, to which I have referred above, at Palatka, Florida. Furthermore, I observed two men-of-warships that were infected at Nagasaki, Japan, in June, 1895, one of whom was a robust young seaman moderately addicted to the abuse of alcohol, and the other a middle-aged but vigorous negro whose rating was that of captain of the hold. Our vessel came from Newchang (Yingko), China, in April, 1895, to Shanghai and proceeded thence to Yokohama, Japan, stopping at Nagasaki for about two days. Both of the men affected, who showed the only cases of malaria on board at or near that time, had spent the same night ashore in Nagasaki; each of them had his initial chill on the same day; and each of them relapsed, in spite of more vigorous treatment than is usually sanctioned by teachers of medicine, on the twenty-first day thereafter; and the captain of the hold relapsed again under my treatment, although it sufficed in the case of his white fellow-sufferer. I left the ship on a special detail before the expiration of another interval; but I commended him especially to my successor. When I saw him again at the U. S. Naval Hospital at Cavite, P. I., in 1902 under treatment for a big axillary abscess, he told me that he had had three more chills after we had parted company; but he could not be lucid about the intervals of time between them, and I have never made occasion to investigate the official records upon this point.

The Navy surgeon that had fallen heir to his case died suddenly within eighteen months of this incident.

I wish to be as emphatic as possible about not employing quinine, except as I have tried to indicate above. Except at the approach of paroxysms, other antiperiodics than quinine should be used, for the reason, it appears to me, that quinine is ineffectual against this plasmodium at most other times than when sporulation is imminent. Some definite facts are available, to support the view that its continued administration in from small to medium doses (say from three to five grains, t. i. d.) invites habituation of the malaria organism to it, thus rendering persons with latent infection liable to outbreak upon marked changes in their habits or in their environs. I have found arsenic in the form of Fowler's solution very effective as an interim antimalarial and as a tonic; but, in cases where the patients are beyond middle age, or debilitated or forced by their environments to use much vegetable food, I prefer pure capicum, which had great vogue before the days of Countess del Chincon, presumably by reason of its obviously strong indication according to the doctrine of *opposite impressions*—the slanderous *allopathy* of the persistent detractors of regular medicine. I have found it best for such a person to take as much of it as he will after meals in the form of fresh pills made up with bread-crumbs. I have often employed a drachm a day thus, and I have myself frequently taken half of this quantity at a single dose without notable inconvenience. Occasionally, its rather pronounced aphrodisiac effects are unmistakably exhibited.

I should have been glad to have felt myself free to leave this subject without challenging further *ex cathedra dicta* regarding it. But I must say regarding C. F. Craig's statement, in 'Osler's Modern Medicine', that fifteen grains per diem of quinine is sufficient to cure intermittent fevers, that it does not comport at all with my experience nor with that of few, if any, of my colleagues. As this, in my opinion, very dangerous error occurs in close proximity to the further misstatements that the sulphate of quinine and the dihydrochloride (bimuriate) are the two most valuable salts of this alkaloid and that the sulphate is soluble in 1 to 9 (*sic*) parts of water, we benighted Southerners that have endured malaria as almost as necessary an evil as the doctrine of protection or as national pension grafting, arise from our efforts to modernize our medical work with feelings and with a general mental state akin to those of an aroused somnambulist. Dr. Craig's underestimate of the dosage necessary for curing aestivo-autumnal fever will be referred to herein-

after. But I am disinclined to omit a tribute to the persistency of a Kentucky statesman, who was reared and who worked in this section of this State, in defeating a strong lobby influence after a long struggle by passing his measure through the Congress, to remove the duty that had hitherto been levied on quinine. "Quinine Jim" McKenzie should be a name to awake responsive memories in the South ages after every trace of the Weightman millions that were accumulated directly by means of the tariff will have disappeared from the earth—and from New Jersey and its politics as well!

I have had next to no experience with quartan infections; hence, I shall omit discussing their management. I feel sure that they are so uncommon as to be virtually negligible in the Middle States at this period. Only a case or two of it figures in the American work in the Canal Zone, according to the statement to me of a Yale medical graduate, which he made in November, 1909. W. F. A.

(To be continued.)

SCIENTIFIC EDITORIALS.

WHAT IS THE MATTER WITH THE MEDICAL PROFESSION?

Judging from the numerous articles in medical journals pro and con on the "division of fees," and resolutions passed by many medical societies discountenancing this practice, the question is being freely asked "What is the matter with the medical profession?" Is it degenerating to the plain of commercialism, or are its aims, standards and ideals being elevated?

American Medicine of Dec. 11th, 1911, in an editorial, makes some pointed and valuable comments which are worthy of careful consideration.

The medical profession has emerged from superstition and mysticism into modern accuracy and truth, conscious of its great duty of relieving suffering. There is a psychological influence that gives a certain personal responsibility of the obligations of each general practitioner which must be felt to be realized. This influence makes him look on his work differently than merely a work for dollars. Let him experience the satisfaction following the saving of a life, or relieving great suffering, then he can grasp the nobler meaning of the work.

Judging from the progress made in service to humanity, and scientific attainments, it can well be said, "the medical profession is all right." But the medical profession, must not be confounded with the individual physician. We cannot afford to be blind to the shortcomings of an occasional practitioner. To

deny that certain evils exist and many physicians are losing the benefits that should be theirs, is carrying optimism too far.

Every practitioner knows there is something wrong in the profession in certain places. This Journal does not believe there is an overcrowding in the profession which was threatened years ago. It is known that the medical colleges are graduating fewer numbers, which is due, to some measure, the elevating standards of the schools; and further, that the profession is offering less pecuniary benefits. But the problems of *premature specialists* in the various branches of medicine are more serious problems. This is truly a day of specialism, and specialism based on efficiency, nothing can be said against, but there has been an enormous increase in premature specialism. Young graduates go to Europe for a few months study in the clinics and come home purporting to be full fledged surgeons or eye, ear, nose and throat specialists. Or others take a 6 weeks course and call themselves competent. "Every capable surgeon knows only too well the harm that is being done by premature surgeons, men who have no more moral right to be practicing surgery than a carpenter." The medical practice suffers by the reason of the failures of incompetent surgeons. Many of these have believed themselves competent. Colleges have been much to blame, for they have not tried to correct the idea that their diplomas are certificates of merit and individual ability, when they are only certificates of completion of certain courses of study. Then the State license has added its share of extending the evil by granting the unrestricted right to perform any operation or undertake anything in any medical practice, if the candidate can answer 75 per cent. of the questions asked. A written test is certainly no test of a surgeon's ability, yet the state will grant him a license as a surgeon, obstetrician, or specialist. A lack of discrimination on the part of the people, is an important factor in the situation. "A pleasing personality, social distinction, church relation, personal appearance and countless other irrelevant considerations have led individuals to place themselves under a doctor's care." No thought is given to his training or experience. The owner of a valuable animal would seek the best veterinary if it were sick but he does not use the same discriminating care in selecting a physician for his child." Unfortunately a great many people will go on trusting themselves in the hands of the surgeon or specialist who strikes their fancy, irrespective of ability or experience. Sooner or later the *State* will require that the surgeon and specialist but measure up not only to a knowledge of the subjects but to efficiency.

Another evil though by no means so important as premature specialism is the tendency to disregard therapeutic or curative measures. True it is that our knowledge of physiology, pathology, appreciation of the value of hygiene, diet, and preventive measures, have grown, also a greater realizing of the importance of the vital forces; but they have created a belief among many that these are all sufficient and the results often attributed to therapeutic measures are due entirely to the organic activity.

"The pendulum of thought always swings to extremes" and it was expected that the absolute confidence in remedial agents of the last two decades should be followed by the opposite or "therapeutic nihilism." "It is disconcerting to the student of mankind that the human mind can reverse itself as often as it does."

Certainly the extent of drug nihilism has not resulted in the laity consulting the medical men more freely, but there has been a turning of the people to quacks, etc. And the doctors must thank themselves for the quarrel with the measures they have taught the public to use. Drugs and remedial agents have their limitations as well as their uses. "It may be true that in the past we have exalted drugs too highly and placed too little dependence on bodily powers. But recognition of the mistake does not make it necessary to make another." Used wisely, drugs can give material aid in correcting abnormal condition in the body. Physicians will never place the blind trust in drugs as formerly, but will demand that in addition to medication, rational eating and hygienic living must be observed.

J. A. STUCKY.

Test for Albumose in the Urine.—Fittipaldi mixes the specimen of urine with six times the amount of alcohol. The next day the alcohol is decanted, the sediment dissolved in as little as possible of a solution of sodium hydroxid (31 to 32 per cent.), and the alkaline solution is tested with the ammoniacal solution of nickel. This reagent is a mixture of equal parts ammonia water and a 5 per cent. solution of nickel sulphate. It is bluish, but when a drop of this reagent is added to the alkaline mixture above, the tint changes to orange in the presence of albumose or peptone. The method can be applied to the blood, first heating to boiling after it has been well mixed with animal charcoal (10 or 20 gm. to 10 or 20 c.c. of blood). The filtrate after cooling is mixed with six times the amount of alcohol as above. This method does not require preliminary removal of the albumin from urine and there is no possibility of confusion with albumin, as the latter never gives the orange reaction.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicines. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A. Council on Pharmacy and Chemistry for inclusion with "New and Non-official Remedies." Under "Reform in Medicines" appear matters tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

RELIABLE MEDICINES.

Articles found eligible by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies."

Propaesin is propyl aminobenzoate $C_6H_5NH.COO(C_3H_7)$ 1:4. It is a fine colorless, odorless nearly tasteless powder, which produces numbness when placed on the tongue. It is almost insoluble in water but soluble in alcohol, chloroform and ether. Said to be stronger than ethyl aminobenzoate (anesthesin). Used in the treatment of gastralgia, gastric ulcer and other painful diseases of the mouth, oesophagus and stomach. It is said to be useful to reduce the sensibility of the mucous membrane of the nose, ear and larynx and to produce local anesthetics. Parmele Pharmaceutical Co., New York (Jour. A. M. A., Jan. 6, 1912, p. 33).

Lactamoule is a pure culture of *Bacillus bulgaricus*, 12 Ce. in each ampoule. Designed to afford a pure culture of the Bulgarian bacilli for the inoculation of milk or other culture medium, or for direct application in the treatment of affections of the body cavities. Fairchild Bros. & Foster, New York.—(Jour. A. M. A., Jan. 6, 1912, p. 34).

Bacillary Milk is a sterilized fat-free milk fermented by the action of a pure culture of *Bacillus bulgaricus*. It contains over 2 per cent. of lactic acid. It is used as a means for the ingestion of the Bulgarian bacilli and for its lactic acid as well as for its nutritive value. Fairchild Bros. & Foster, New York.—(Jour. A. M. A., Jan. 6, 1912, p. 34).

Destri-Maltose, Mead's contains approximately: maltose 52.0 per cent., dextrin 51.7 per cent., sodium chloride 2.0 per cent., and moisture 4.3 per cent. It is a pale yellowish-white, granular,

odorless powder, sweetish and soluble in water. Maltose being claimed to be more readily assimilable than other forms of sugar, Mead's Destri-Maltose is proposed to supplement the carbohydrate deficiency of cow's milk. Used in milk mixtures in place of milk sugar. Mead, Johnson & Co., Jersey City, N. J.—(Jour. A. M. A., Jan. 6, 1912, p. 34).

Lactic Bacillary Tablets—Fairchild, are made from a practically pure culture of the *Bacillus bulgaricus*. They are designed for internal administration in the treatment of intestinal fermentative diseases by the Bulgarian bacilli, with the design of accomplishing the acclimation of the bacilli in the alimentary tract, so as to secure their characteristic action against putrefactive fermentation by the production of lactic acid. One or two tablets before or after meals. The diet should not contain an excess of proteid, but should afford sufficient sugar. Fairchild Bros. & Foster, New York.—(Jour. A. M. A., Jan. 20, 1912, p. 191).

Salvarsan (Arsenphenol-amin hydrochloride, arseno-benzol, "606") is a 3-diamino-4-dihydroxy-1-arseno-benzene hydrochloride, $HCl.NH_2.OH.C_6H_3As:As.C_6H_3.OH.NH_2.HCl-2H_2O$, corresponding to 31.57 per cent. arsenic (As). It is marketed in hermetically sealed tubes each containing 0.6 Gm. (10 grains) Salvarsan. Salvarsan is a yellow crystalline, hygroscopic powder, very unstable in air. It is readily soluble in water, yielding a solution with an acid reaction. The addition of sodium hydroxide solution to an aqueous solution of salvarsan precipitates the free base ($NH_2.OH.C_6H_3As:As.C_6H_3.OH.NH_2$) which redissolves when more alkali is added.

It is given to adults in doses of 0.3 to 0.6 Gm. (5 to 10 grains) for children the dose is from 0.2 to 0.3 Gm. (3 to 5 grains). In infants doses of from 0.02 to 0.1 Gm. (1-3 to 1-2 grains) may be used. For a subcutaneous and intramuscular injection a suspension in a neutral fluid is commonly employed. This suspension is prepared as follows: The weighed amount of salvarsan is triturated with 0.35 Cc. normal sodium hydroxide solution to each 0.1 Gm. salvarsan. To this liquid a solution of 0.1 Cc. of normal sodium hydroxide solution for each 0.1 Gm. of salvarsan in 8 Cc. of sterile water is added drop by drop until the liquid is exactly neutral to litmus paper. If the neutral point is passed the excess of alkali must be carefully neutralized by a weak solution of hydrochloric or acetic acid. Subsequently, salvarsan may also be administered in form of oily suspensions.

These suspensions should be injected at once, using a syringe with a very thick platinum needle.

For intravenous injection a clear alkaline solution is prepared as follows: The weighed quantity of salvarsan is triturated with 0.7 Cc. normal

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sodium hydroxide solution for each 0.1 Gm. of salvarsan and then more of the alkaline solution is cautiously added until complete solution occurs.

This solution is diluted with from 100 to 250 cc. (3 to 8 ounces) of sterile physiologic salt solution (0.9 per cent.) and filtered through a sterile filter.

The contents of a tube should be used at once after opening and under no circumstances should the contents of a tube damaged in transportation or any remnants of the powder from previously opened tubes be used. Victor Koechl & Co.—(*Jour. A. M. A.*, Jan. 20, 1912, p. 191).

Proprietaries—Fraudulent and otherwise. An editorial in the *Journal A. M. A.*, discusses the distinction between nostrums and the articles accepted by the Council on Pharmacy and Chemistry. The latter have been found to have some presumable value and to be truthfully advertised. Most proprietaries not accepted have been found to be either fraudulent, worthless or exploited under false claims.—(*Jour. A. M. A.*, Dec. 23, 1911, p. 2087).

The National League for Medical Freedom. An editorial on the National League for Medical Freedom, which opposes public health measures, gives an insight into the aims and motives of those most prominent in the league.—(*Jour. A. M. A.*, Dec. 23, 1911, p. 2091).

Nostrums Exposed in North Dakota. Professor Ladd reports on the composition of the following nostrums and condemns them: Toris Compound, Dr. Green's Improved Compound or Sarsaparilla, Pape's Cold Compound, Caloclide Compound, Eilert's Extract of Tar and Wild Cherry and Red Raven.—(*Jour. A. M. A.*, Dec. 23, 1911, p. 2097).

Radium Teas, one of the latest Paris fads (or fakes) appears to be the exposure to radium emanation while drinking tea or playing whist.—(*Jour. A. M. A.*, Dec. 23, 1911, p. 2098).

Oxidaze Tablets. While formerly exploited to the medical profession, oxidaze is now advertised to the public as a "consumption cure." An examination in the A. M. A. Chemical Laboratory of the stuff as it is now sold, shows the tablets to consist essentially of sugar containing a small amount of volatile oils, starch and a trace of potassium iodide.—(*Jour. A. M. A.*, Dec. 30, 1911, p. 2154).

Natural vs. Synthetic Sodium Salicylate. The Council on Pharmacy and Chemistry proposes to make a thorough study, chemical, pharmacologic and clinical, regarding the asserted difference in action of "natural" and "synthetic" sodium salicylate. The present contribution is a general

discussion by Torald Solman, and a pharmacologic study by J. A. Waddell. Solman outlines the claims of superiority made for the "natural" kind and shows that the evidence is most meagre and not applicable to the product now available. The pharmacologic experiments made on rats, cats and rabbits show no difference in action between the "natural" and "synthetic."—(*Archives of Internal Medicine*, Dec. 15, 1911, p. 784).

Prescription Nonsense. Many competent physicians write poor prescriptions. These often are widely quoted and adopted though most unscientific, worthless or foolish. We are warned that it is the educated physician who is driving the laity to seek drugless treatments to their frequently serious detriment and often hopeless neglect, because he will not endeavor to find a simple drug, administered in a pleasant manner that will help the patient's troublesome symptom without injuring some other part of him. Also, as the layman hates more and more to be "drugged," as he terms it, and dislikes multiple mixtures, and dislikes to pay for a large bottle of some proprietary mixture, he often neglects to seek scientific advice.—(*Jour. A. M. A.*, Jan. 6, 1912, p. 34).

The Conspiracy of Silence. Many lay publications have contracted to publish nothing detrimental to their advertising patrons. While so-called "independent" medical journals do not sign such contracts their failure to acquaint their readers with medical frauds amounts to the same thing. While certain important facts regarding Pepto-Mangan, Anasarcin, Tyree's Antiseptic Powder, Campho-Phenique, Phenalgin, Papine and Antikamnia have been published, "independent" medical journals have, in general, given no publicity to such reports. It is suggested that the "conspiracy of silence" will be maintained so long as an easy-going medical profession will support journals run in the interest of their advertisers.—(*Jour. A. M. A.*, Jan. 6, 1912, p. 36).

"Surgery, Gynecology and Obstetrics" to be clean from cover to cover. Recognizing the impossibility of any one man being able to determine whether or not certain proprietaries are worthy or unworthy additions to therapeutics the managing editor of *Surgery, Gynecology and Obstetrics*, Franklin H. Martin, announces that after Jan. 1st, this high-class journal will carry advertisements only for those proprietary medicines which have been approved by the Council on Pharmacy and Chemistry.—(*Jour. A. M. A.*, Jan. 6, 1912, p. 51).

Convictions Under the Food and Drugs Act. Sweet's Honey Vermifuge. This nostrum was found to contain santonin and senna as its essential constituents. It was declared misbranded because no honey could be found in it and also be-

cause the false claim of harmlessness had been made.

Dr. Town's Epilepsy Cure. This "epilepsy cure" from Fon du Lac, Wis., was declared misbranded because of the ridiculously false claim that it would "cure" epilepsy. Dr. Towns pleaded guilty before the Supreme Court had decided that lies such as he printed were not contrary to the spirit of the Food and Drugs Act.

Dixie Fever and Pain Powder. Headache powders sold by Morris-Morton Drug Co., Fort Smith, Ark. Because of promiscuous, absurd and dangerous claims made for this nostrum it was declared misbranded.

Stello's Asthma Cure. Claimed to be purely vegetable was found to contain: potassium iodid, glycerin, cannabis indica and alcohol. It was declared misbranded because the quantities and proportions of cannabis indica and of alcohol were not stated on the label.—(Jour. A. M. A., Jan. 6, 1912, p. 51).

Society of Universal Science. This was a pseudo-medical cult giving mail-order courses in the "Laws of Human Electricity." It sold mail-order courses that purported to teach the "Laws of Human Electricity and Their Application to Health, Mind, Power and Spiritual Growth." The president of this so-called society was one Andrew McConnell.

Among the responsible men who were duped into endorsing this fake was the Rev. Dr. Robert S. MacArthur, who stands high in the religious world and who on July 7, 1908, at Carnegie Hall, in New York City, is reported to have introduced Andrew McConnell in most glowing terms as the founder of a new method of healing. Probably because of Rev. MacArthur's support many well-known citizens of New York City were present in the audience.

Recently McConnell surrendered to the police. Under the alleged impulse of delusions that she was interfering with his great "work" he had shot at his wife twice. McConnell appears to be an irresponsible paranoiac it may be asked to what extent Rev. Dr. Robert MacArthur and those other "intellectuals" who listened so gravely to McConnell's idiotic vapors were fostering the megalomania which has resulted in a homicidal frenzy of well-nigh fatal consequences.—(Jour. A. M. A., Jan. 13, 1912, p. 129).

"Thyroidectomized Milk." Many attempts have been made in recent years to alleviate the symptoms of hyperthyroidism by the administration of the milk, serum or dried blood of animals deprived of the thyroid gland. The theory underlying these attempts was that, after removal from an animal of the thyroid, toxic substances accumulate in the blood, or antibodies are formed, some of which pass into the milk, and which in some way neutralize the excess of thyroid secretion which is believed to be present in the

blood in hyperthyroidism. The reports from the use of such preparations have not been very uniform. Perhaps the most favorable results reported followed the use of comparatively large amounts (a pint to two quarts daily) of the fresh milk of thyroidless goats.

Dr. Reid Hunt, has suggested that it was the milk per se rather than the presence in it of antibodies which was responsible for the improvement noted. Recent work suggests that Hunt's explanation may be correct. Further clinical observations on this subject are much to be desired.—(Jour. A. M. A., Jan. 20, 1912, p. 197).

Applying the Penalty. A law that provides no penalties for its violation is worthless; in fact, it is worse than worthless, for not only is the law itself inefficacious, but the impunity with which it may be violated creates disrespect for all law. The various pure food laws of the country have accomplished good because drug adulterators and food sophisticators have found it either inconvenient or expensive to violate them. On the other hand the efforts of the Council on Pharmacy and Chemistry to protect the medical profession against frauds and misrepresentations in proprietary medicines are rendered largely abortive because the Council is purely an advisory body and its findings do not result in the penalizing of the concern found guilty of fraud or misrepresentation. The work of the Council would become more effective if physicians would confine their proprietary prescribing to such preparations as had been admitted to New and Nonofficial Remedies and if they would demand that publishers of medical journals, to which they subscribe, purge their advertising pages of products shown by the Council to be worthless, fraudulent, or both. The work of the Council would be effective only if it receives the full support of the medical profession.—(Jour. A. M. A., Jan. 20, 1912, p. 198).

Medical Journals and Nostrum Exploitation. The 250 or 300 independent medical journals published in the United States may be broadly divided into two classes: first, those whose subscription price is sufficient to warrant physicians to expect them to run in the interest of the profession, and second, those whose subscription price is merely nominal and whose real support comes from the advertisers rather than from the subscribers. The term "independent" as applied to medical journals of the latter class, is misleading. Such journals, it is true, are independent of the medical profession, but they are subserviently dependent on the manufacturers of proprietary remedies whose advertising appropriations support them. While the journals of the first class could give the profession a square deal those of the second class can not, for they are dependent on their advertising patrons.—(Jour. A. M. A., Jan. 20, 1912, p. 198).

Exposure of "Patent Medicines". The interest and cooperation which the educational campaign of the American Medical Association is receiving is shown by the following taken from the Albuquerque Morning Herald: "The public-spirited gentlemen who are now posting standard works endorsed by the American Medical Association in various public places in Albuquerque, to enlighten the credulous public on the nature of the various 'cures' and nostrums now in vogue, deserve the gratitude of the people. This is an educational crusade almost as important as the other one started here to teach the boys and girls about the prevention of tuberculosis. 'The Great American Fraud' as Mr. Adams has so aptly termed it, will soon be able to see its finish and thousands of dollars now being donated by the gullible ailing to cold-blooded sharps who play on their apprehensions will be spent to better purpose. War on the fake dopes is war in the interest of the stomachs, health and lives of our people and such a crusade deserves the support of every one. At least it is worth the public's while to read these little books now being distributed about the city."—(Jour. A. M. A., Jan. 20, 1912, p. 200).

Which Will Be Next? With the January issue, **Surgery, Gynecology and Obstetrics** advertises no pharmaceutical preparation that has not been approved by the Council on Pharmacy and Chemistry. Three independent journals now support the Council in this way, namely, **Surgery Gynecology and Obstetrics**, **Southern Medical Journal** and the **Cleveland Medical Journal**. Which will be next?—(Jour. A. M. A., Jan. 20, 1912, p. 200).

Publications Deriving Revenue by Promotion of Fakery. Those publications who derive their revenue principally from the promotion of fakery use various tactics to discredit those forces engaged in exposing worthless or fraudulent nostrums. In an editorial the Druggists Circular, a consistent champion of honest pharmacy, notes that while many journals believe it wiser to say nothing in the hope that the storm will blow over, others can not keep their equanimity and attempt in various ways to defend the nostrum promoters. Readers, generally, however, have grown much wiser regarding many things than they were a few years ago, and as just intimated, are becoming more and more able to discern the whereabouts and the nature of the Ethiopian in the nostrum woodpile. The number of people that may be fooled all the time is continually growing smaller.—(Druggists Circular, Jan. 1912, p. 4).

The J. B. L. Cascade Treatment. The J. B. L. ("Joy-Beauty-Life") Cascade is a device sold by one Chas. A. Tyrrell, an eclectic physician of New York City, for the administration of rectal

enemas. Tyrrell has improved—commercially—on the propaganda started many years ago by Wilford Hall who declared that all the ills of the flesh are due to the fact that people do not make a practice of flushing their colons. Tyrrell sells the appliance for giving these injections and claims that apoplexy, consumption, Bright's disease, syphilis and cancers "all have their origin in the colon" and that "typhoid fever and appendicitis may positively be cured and absolutely prevented by the 'J. B. L. Cascade' treatment." Tyrrell's treatment, which is said to cure everything, consists of his syring and stick of soap and his "celebrated 'J. B. L. Antiseptic Tonic.'" He also sells the "Ideal Sight Restorer" claimed to cure the refractive errors of the eye—near-sight, farsight, old-sight and astigmatism—and also cataract, glaucoma, cross-eye and paralytic blindness.—(Jour. A. M. A., Jan. 20, 1912, p. 213).

Mercolized Wax. "Mecolized Wax" belongs to the "prescription fake" type of nostrum. It is advertised "to remove the thin veil of dead cuticle and leave the skin dry, clear and beautiful." Analysis showed it to be an ointment containing 10 per cent. of zinc oxid and 10 per cent. ammoniated mercury.—(Jour. A. M. A., Jan. 20, 1912, p. 218).

Limitations of Organotherapeutics. The glands of internal secretion are assuming more and more importance in medicine. Attention is now being especially directed to the milder forms of hypo and hyperactivity of these glands.

While organs of animals have been used in medicine for a long time we are but beginning to learn the conditions in which organotherapeutics promises to be of value. In discussing recent advances the Journal A. M. A., says: "The ability to do this in a few cases is due to recent experimental and accurate clinical work, for it is a striking fact that although organotherapeutics is one of the oldest and most wide-spread forms of therapy, not a single result of value was obtained until empiricism was replaced by rationalism." From recorded observations it would seem, a priori, that cases of thyroid deficiency would offer a more promising field for organotherapeutics than would cases of parathyroid and suprarenal deficiency, and these in turn than cases of pancreas deficiency.

It is probable that "not many of the 250 or more preparations of organs of animals found on the market are creditable to modern medicine or to the manufacturers exploiting them. The lists of commercial preparations include such substances as liver, kidney, brain, spinal cord and salivary glands—organs for which there is no, or but very slight, evidence, that they form specific internal secretions—and various preparations of the "internal secretion" of the pancreas, although there is evidence that none of this secretion is retained, at least in an active form,

in this gland."—(JOUR. A. M. A., Jan. 27, 1912, p. 278).

Phenalglin. Phenalglin is a synthetic coal-tar product"—this claim was made some years ago when the profession took the manufacturer's claims at their face value. Then the Council on Pharmacy and Chemistry came into existence and in a report stated that Phenalglin consisted of acetanilid 57 parts, sodium bicarbonate 29 parts and ammonium carbonate 10 parts. To offset the report of the Council the manufacturers, the Etna Chemical Company, adopted the slogan "Phenalglin is just what we have always said it to be."

While the Food and Drugs Act required abandonment of the former claim that Phenalglin was a synthetic and an acknowledgement on the label that it contains acetanilid as its chief constituent, while the firm found it expedient to omit certain other claims from the label, in a general way the same claims are made for the product now that were made formerly. That is, although the Food and Drugs act has forced a certain degree of truthfulness on the Phenalglin labels, the advertising matter is as fraudulent and as untruthful as ever it was.

On the cartons in which the bottles of Phenalglin came, it is stated that the product is "for dispensing purposes only." Yet, as a matter of fact, practically any layman can go to any drug store and obtain this product, otherwise it would not be necessary to include with every bottle a circular naming the diseases for which this acetanilid mixture is supposed to be good and to have the name of the product and of the firm making it blown into the bottle.—(JOUR. A. M. A., Jan. 27, 1912, p. 293).

Fraudulent Proprietaries. What is a fraudulent proprietary medicine? A fraudulent medicine is one that is exploited under false assertions regarding either its composition, its therapeutic effects or both. Formerly false formulas were circulated with utter abandon and no therapeutic claim appeared too absurd. The exposures of the Council on Pharmacy and Chemistry and the enforcement of the Food and Drugs Act have made the declaration of false formulas a risky procedure and hence they have been abandoned altogether or are so worded as to be meaningless. As regards therapeutic claims there has been a slight tendency to abandon the "lie direct" for the "lie with circumstance," but in general the claims are well-nigh as fraudulent today as they were ten years ago. Phenalglin illustrates the type of proprietary humbug that is foisted on the medical profession under claims that are both false and vicious.—(JOUR. A. M. A., Jan. 27, 1912, p. 280).

A Marvelous Mixture. Take acetanilid 57 parts, of sodium bicarbonate 29 parts, of ammonium carbonate 10 parts and mix. You will

then have an "ammoniated coal-tar product" which is such a "judicious combination of ingredients" that it may be counted on "to secure maximum anodyne and analgesic effect." This is "Phenalglin" and, while containing more than 50 per cent. acetanilid, yet its exploiters claim that it has "no depressing effect," "is never followed by depression" and "its prolonged administration does not give rise to destructive blood metamorphosis." These and similar false statements are made in this year of miracles, 1912, and a large proportion of a presumably scientific profession "fall for it" and a multitude of medical editors stand sponsor for it.—(JOUR. A. M. A., Jan. 27, 1912, p. 280).

The Journal of the American Pharmaceutical Association. With the object of furnishing a more direct and speedy means of communication between the American Pharmaceutical Association and its members, the association has established a monthly journal which is to be its official organ. The first number has just appeared. Like the "independent" medical journals drug journals, in general, have found it expedient to withhold publicity of the Association's propaganda for honest medicines. This journal, it is expected, will be the third drug journal that will help the propaganda.—(JOUR. A. M. A. Jan. 27, 1912, p. 282).

Blight and NaturAID Fake. In discussing the personnel of the National League for Medical Freedom the connection of Reynold E. Blight of Los Angeles, Cal., with the NaturAID Health Utilities Company was referred to. The reference was based on circulars sent broadcast by the NaturAID concern. From protests sent by Mr. Blight denying his connection with the concern it appears that, although living in the town in which this quack concern is located, he remained in ignorance of the misuse of his name until it was called to his attention by a journal published in the interest of a profession with which he is not connected and issued 2,000 miles from where he lives.—(JOUR. A. M. A., Jan. 27, 1912, p. 294).

Ayer's Cherry Pectoral. In pointing out that "The Conspiracy of Silence," which formerly reigned over patent medicines now dominated proprietary nostrums, it was suggested that a death due to Ayer's Cherry Pectoral would not have been noted in newspapers. The J. C. Ayer Company objected to this statement because their "Cherry Pectoral of today—"contains no anodyne whatever." The incident calls attention to the variability of composition of proprietaries, whether of the "patent medicine" or the "ethical" kind. Previous to 1905, Ayer's Cherry Pectoral contained morphine and alcohol. The firm having decided to publish its formula the composition was changed. Terpin hydrate was added.

some of the drugs previously used were omitted and heroin was substituted for morphin. The alcohol was retained. Later the formula was again revised and the alcohol left out. Still later the formula was re-re-revised and the heroin left out. Formulas may come and formulas may go, but a nostrum goes on forever—or at least so long as the newspapers will carry its advertisements! If the composition of a "patent medicine" which is sold under an open formula should undergo such radical changes in a comparatively short time, what is happening in the case of those products whose composition has never been made public and whose manufacturers make no pretense of "playing fair" with the public?—(Jour. A. M. A., Jan. 27, 1912, p. 294).

Formanint. Formanint Tablets are widely advertised and extravagantly exploited to the laity in Great Britain. The preparation is put out by the same concern that exploits Sanatogen. The medical profession of this country is now being circularized and advertisements are appearing in medical journals. They already appear in the Medical Record, New York Medical Journal and American Journal of Clinical Medicine. As soon as American physicians have furnished the requisite number of testimonials and have recommended it to sufficient number of their patients the advertisements will no doubt be quietly dropped from the American medical journals and the advertising pages of newspapers and magazines will be called into service.—(Jour. A. M. A., Jan. 27, 1912, p. 295.)

OFFICIAL ANNOUNCEMENTS

DEPOTS FOR BACTERIOLOGICAL MAILING CASES.

The Bureau of Bacteriology has opened depots in every county in the State and mailing cases for bacteriological specimens can now be obtained without delay. Routine examinations will be made free of charge for tuberculosis, Widal and Diazo reaction for Typhoid Fever, Diphtheria, Malaria, Spirochaeta Pallida, Gonococci, Hookworm and all kinds of intestinal parasites. No examination will be now made unless sent in the official containers as it is a violation of the United States Statutes to mail specimens except in especially protected mailing cases. If for any reason the desired containers cannot be obtained at the depots, they will be sent on request, express prepaid.

Containers can now be obtained at the following depots:

Adair—Paull Drug Company, Columbia.
 Allen—Carpenier-Dent Drug Company, Scottsville.
 Anderson—Dr. J. W. Gilbert, Lawrenceburg.
 Ballard—R. R. Roseco, Wickliffe; J. B. Rogers,

Barlow; Dr. John R. Baker, La Center.
 Barren—Leech & Ellis, Glasgow.
 Bath—Dr. A. W. Walden, Owingsville.
 Bell—Dr. J. G. Foley, Pineville; W. H. Sprague, Midlesboro; Dr. B. E. Ginaninni, Straight Creek.
 Boone—Dr. F. L. Peddicord, Burlington.
 Bourbon—Clark & Company, Paris.
 Boyd—Dr. J. W. Kineaid, Catlettsburg; Dr. C. K. Kercheval, Ashland.
 Boyle—J. S. Well's Drug Store, Danville; C. H. Wallin, Brooksville.
 Breathitt—Jackson Drug Company, Jackson.
 Breckinridge—Kincheloe's Pharmacy, Hardinsburg.
 Bullitt—S. H. Ridgway, Shepherdsville.
 Butler—W. T. Kittinger, Morgantown.
 Caldwell—Dr. R. W. Ogilvie, Princeton.
 Calloway—H. P. Wear's Drug Store, Murray; Dr. E. B. Houston, Hazel.
 Campbell—T. D. Widrig, Newport; Dr. C. W. Shaw, Alexandria.
 Carlisle—J. S. Petrie & Son, Bardwell; H. A. Gilliam, Milburn.
 Carroll—W. L. Gaines, Carrollton.
 Carter—Dr. J. W. Strother, Grayson.
 Casey—Dr. I. S. Wesley, Liberty.
 Christian—L. L. Elgin, Druggist, Hopkinsville.
 Clark—J. L. Anderson, Manchester.
 Clinton—Dr. J. A. Sloan, Albany.
 Crittenden—Dr. T. A. Frazer, Marion.
 Cumberland—Alexander-Smith Drug Company, Burksville.
 Daviess—W. E. Danhauser, 404 Frederic St., Owensboro; R. E. Knox, Whitesville.
 Edmonson—J. H. Wood, Brownsville.
 Elliott—Doctors in County supplied.
 Estill—Dr. G. A. Embry, Irvine.
 Fayette—Barnes & Hall, Main and Mill Sts., Lexington.
 Fleming—Aitken & Wilson, Flemingsburg.
 Floyd—Dr. W. W. Richmond, Prestonburg.
 Franklin—J. G. South; H. S. Keller.
 Fulton—Dr. Hugh E. Prather, Hickman; Dr. J. M. Alexander, Fulton.
 Gallatin—B. K. Bailey, Warsaw.
 Garrard—R. E. McRoberts' Son, Lancaster.
 Grant—Harrison Drug Company, Williamstown.
 Graves—B. S. Hunt's Drug Store, Mayfield.
 Grayson—Dr. C. L. Sherman, Millwood.
 Green—
 Greenup—
 Hancock—
 Hardin—Showers & Hay's Drug Store, Elizabethtown; Cecelian Drug Company, Cecelian.
 Harlan—
 Harrison—Dr. M. M. McDowell, Cynthiana.
 Hart—J. D. King & Son, Munfordsville.
 Henderson—Baldauf's Drug Store, Henderson; W. A. Quinn, Henderson.
 Henry—Lester E. Ellis, New Castle.
 Hickman—J. R. Lee, Columbus; J. R. Scarborough, Clinton.

Hopkins—Dr. A. O. Sisk, Earlington; Dr. J. D. Sory, Madisonville.
 Jackson—Dr. W. B. Hornsby, McKee.
 Jefferson—
 Jessamine—Dan P. Hemphill, Nicholasville; Dr. H. L. McLean, Wilmore.
 Johnson—Dr. G. V. Daniels, Paintsville.
 Kenton—
 Knott—
 Knox—Dr. J. S. Locke, Barbourville.
 Larue—Ferrill's Drug Store, Buffalo.
 Laurel—W. H. Paynter's Drug Store, London.
 Lawrence—Dr. J. J. Gambill, Blaine; Dr. A. W. Bromley, Louisa.
 Lee—Dr. C. B. Cann, Beattyville; Dr. L. F. Gibson, Heidelberg.
 Leslie—Ray Brothers, Druggists, Hyden.
 Letcher—
 Lewis—Dr. L. A. Grimes, Concord; Dr. J. F. Irvine, Tolesboro; Dr. J. M. Wells, Vanceburg.
 Lincoln—Drs. Brown & Phillips, Stanford; W. J. Childress, Houstonville.
 Livingston—N. R. Farris & Co., Salem; Dr. F. G. Larue, Smithland.
 Logan—J. M. Perry, Druggist, Russellville.
 Lyon—Dr. J. H. Hussey, Eddyville.
 McCracken—
 McLean—W. H. Howden, Druggist, Calhoun.
 Madison—Joe Schafhausen, Druggist, Richmond.
 Magoffin—Kash Drug Store, Salyersville.
 Marion—Dr. C. B. Kobert, Lebanon.
 Marshall—Dr. V. A. Stilley, Benton.
 Martin—
 Mason—
 Meade—Dr. J. R. Dink, Brandenburg.
 Menifee—
 Mercer—C. M. Dedman & Son, Harrodsburg.
 Metcalfe—Briggs Drug Store, Edmonton.
 Monroe—
 Montgomery—Thomas Kennedy, Druggist, Mt. Sterling.
 Morgan—B. F. Carter, West Liberty.
 Muhlenburg—Dr. E. R. Yost, Greenville; Dr. J. T. Woodburn, Central City.
 Nelson—J. M. Wilson, Druggist, Bardstown; J. S. Rodman, New Haven; C. P. Brown, Bloomfield.
 Nicholas—Dr. Malcolm Dills, Carlisle.
 Ohio—Herbert Sanders, Druggist, Hartford; J. Dr. Cooper, Druggist, Fordville.
 Oldham—McDowell & Son, druggists, La Grange.
 Owen—Dr. C. F. Alexander, Gratz.
 Owsley—Dr. A. M. Glass, Booneville.
 Perry—Kelley-Engle Drug Company, Hazard.
 Pike—Dr. Z. A. Thompson, Pikeville.
 Powell—J. W. Johnson, Stanton.
 Pulaski—Dr. A. W. Cain, Somerset.
 Robertson—Dr. W. S. Chandler, Mt. Olivet.
 Rockcastle—
 Rowan—Dr. A. Scaggs, Morehead.
 Russell—G. F. Jones, Druggist, Jamestown.
 Scott—Thompson & Con, Georgetown.

Shelby—Dr. S. L. Beard, Shelbyville.
 Simpson—Dr. M. M. Moss, Franklin.
 Spence—W. T. Froman, Taylorsville.
 Taylor—R. L. Hill, Druggist, Campbellsville.
 Todd—
 Trigg—
 Trimble—T. R. Ingalls, Druggist, Milton.
 Union—Dr. S. L. Henry, Morganfield.
 Warren—Ewing's Drug Store, Smith's Grove.
 Washington—Hayden & Willett, Druggists, Springfield.
 Wayne—Dr. J. F. Young, Monticello.
 Webster—Dr. J. A. Goodson, Dixon; Dr. C. L. Edwards, Sebree.
 Whitley—The Smith Drug Store, Corbin; E. W. Nelson Drug Company, Williamsburg.
 Wolfe—Dr. B. D. Cox, Campton; Dr. A. C. Nicholls, Hazel Green; Dr. G. M. Center, Toller; Dr. S. S. Swango, Valeria.
 Woodford—B. B. Smith & Son, Druggists, Versailles.

ANTITOXIN DEPOTS.

Jackson—Dr. G. C. Goodman, Welchburg.
 Christian—Elgin's Drug Store, Hopkinsville.
 Marshall—W. T. Little, Calvert City.
 Graves—H. H. Hunt, Mayfield.
 Carroll—P. V. Ellis, Ghent.
 Marion—R. C. McChord, Lebanon.

To the Editor:

I enclose copy of letter sent this day to the Louisville Evening Post. Doubtless it will be thrown into the waste basket by them. If a few hundred medical men and their friends were to write such a letter and mail to the Post or other offending papers, they would begin to sit up and take notice.

Yours truly,

I. S. MANNING.

Manchester, Ky., Feb. 8, 1912.—Editor, Evening Post, Louisville, Kentucky.—Gentlemen: I have been a subscriber for the Evening Post for years, my annual subscription is about to expire. I am debating in my mind whether to renew my subscription or quit. Many things I find in the Post that I can commend. The Post's ideas of reform and progressive politics meet with my hearty approval; then too, as a general thing, its position is sound on morals, temperance, education, business, law and order.

I take exception to a practice the Post has of making scare headlines and pseudo-scientific introductions to D's pills, P's sawbrier juice, and X's soul-tablets. An unsophisticated reader often fails to find the *res gestae* until he has absorbed the slop on the surface. The readers mind thus water-logged with poison has lost its discriminating power. The suggestion of the artful advertiser has already brought out each symptom as fast as describ-

ed. The reader can see only one relief, buy the nostrum and be healed.

A further complaint I make: I do not want to have Charley Moonshine's disgusting mug and his fraudulent claims thrust in my face 300 and odd times a year. Too much of the Post's space is given up to patent medicine swindles and swindlers.

The Post's rake-off from this class of business is blood-money, taken from poor, sick, discouraged, and dying wretches; just how much it gets and how much the other fellow gets is immaterial. In equity its* should be much the larger share because it creates the sole market for his class of warts by publishing the lying, fraudulent advertisement. Drop the advertisements and this business would cease forthwith.

Now, as to my part, I would willingly pay twice the subscription rates for a clean, live newspaper that I could introduce into my home without any compulsions of conscience. I just send you this in the hope that you may clean up your paper.

Yours very truly,

*Post's.

Laparotomy for Placenta Previa.—In the first two of the three cases reported the patients were elderly primiparae and after considerable hemorrhage the child was removed by Cesarean section and both mothers and children were dismissed in good condition, with nothing to interfere with future pregnancies. The third patient was a woman of 40 at term with her eighth pregnancy, faint from excessive losses of blood, the fetus dead. The abdomen was opened and the uterine arteries ligated and ligaments tied off. The pulse began to improve at once, and supravaginal amputation of the unopened uterus was rapidly done and the patient was replaced in a warm bed, the pelvis raised.

Infusion Anesthesia.—The most striking features of infusion anesthesia, Rood says, are: Extreme flexibility so that the condition of the patient can be adjusted with great nicety and can be changed in the direction of deepening or lightening the anesthesia with really remarkable rapidity. That the patient begins to come round very soon after the anesthetic is stopped and is able to converse rationally within a few minutes. That postanesthetic vomiting and pulmonary irritation are both extremely rare. Rood has used it with much satisfaction in twenty-one cases.

ORIGINAL ARTICLES

ACUTE SPINAL PARALYSIS; DIAGNOSIS AND TREATMENT.*

By JOHN J. MOREN, Louisville.

In older text books we were taught that, "Anterior Poliomyelitis," commonly called infantile paralysis, was a motor paralysis, generally monoplegic, of the muscles that are associated in function, followed by atrophy and electrical alteration in these muscles. Cerebral, sensory, rectal and vesical symptoms being absent or temporarily in duration." The causes in many cases were unknown, but causative factors as age, season, infections, exposure to cold, trauma, strains, etc., were mentioned. The disease was known to be located in the anterior cornua of the cord. The exact origin of this injury could not be interpreted, some believed it was a parenchymatous degeneration of the cells, some held it to be interstitial in origin, others thought it originated through the vascular system. Small epidemics have been referred to by the early writers, but nothing definite was known of the infectious nature of this disease.

This is not a new disease. Endemic cases have occurred in all the states for years, but a new phase of the disease is the epidemic. The first intimation of an epidemic was reported from Alabama about 1841, but the first actual report was recorded in Europe in 1881. The first reported in America was in Vermont in 1894. Several smaller epidemics occurred along the Atlantic coast. In 1905 Norway had quite an extensive epidemic, and in 1907 the New York epidemic occurred; 1908 seemed to be a quiet year. In 1909 Massachusetts suffered as well as other states, and each year thereafter one or more epidemics have occurred. Altogether about fifty epidemics have been recorded. Four-fifths of the cases in the past four years have occurred in the United States. The majority of these cases have occurred in children, due doubtless to a lessened resistance than adults.

When we stop to think of the thousands of crippled children resulting from these epidemics, it is certainly worth our while to do all we can to break the ravages of this disease. Happily the best investigations and information of this disease have been obtained by the American doctor, he is not asleep and the details of this disease will sooner or later be brought to light. As a result of the investigations of the epidemics which have been carried on the last five or ten years, a distinct change has occurred in the nature and conception of the disease. To-day the

*Read before the Whitley County Medical Society.

lesion is not confined to the anterior cornua of the cord, the cortex, midbrain and meninges suffer. Flexner says that the brunt of the attack is spent on the meninges and that there is a congestion with small hemorrhage in the anterior horn. The explanation of the frequency of the lumbar and cervical portions, as well as the anterior horn, is due to the fact that this portion has a more abundant blood supply.

It is now regarded, pathologically as an acute infiltrative, nonpurulent inflammation, due to some microorganism which has a pre-delection for the nervous system and is carried to the nervous system by the circulation. The organism has not been demonstrated but experimental investigations have furnished us some facts. It is conceded that the nasal tract is the most probable avenue of entrance. An emulsion made from the nasal secretions will produce the disease. Dixon and others have failed to transmit the disease by frequent swabbing of the nasal tract of polio cases, and Landsteiner succeeded in transmitting the disease from the tonsils, nose and pharyngeal secretions. Some believe that infection occurs through the digestive tract, but it seems to be conceded that the nasal is the most important. It is a question whether the saliva, urine and feces carry the microorganism, however it is recommended that they be disinfected. It is known that it is not a very infectious disease, for monkeys suffering from polio in the same cage with healthy monkeys, do not infect others. Also, in the majority of cases occurring in an epidemic only one member of a family is affected. In proportion to the number exposed, very few suffer. How the virus is carried from one person to another is not known, many suggestions have been made but none proven. If it is carried by an insect it is as Flexner says, one that goes with travel.

In view of the fact that it is accepted to be an infectious disease, how about the old list of causes? Age and season must be retained, but dentition, trauma, exposure, etc., can only contribute their portion of making the patient more liable to infection. They do not cause the paralysis.

DIAGNOSIS.

All writers in the past few years use Wickman's classification which is as follows:

- (1) Spinal poliomyelitic form,
- (2) Ascending form,
- (3) The bulbar or pontine form,
- (4) Cerebral or encephalitic form,
- (5) Ataxic form,
- (6) Polyneuritic form,
- (7) Meningitic form,
- (8) Abortive form,
 - a. General infection,
 - b. Meningeal irritation,

- c. Pain, like influenza,
- d. Cases with digestive disturbance.

The point of interest about this classification is the question, how many cases of polio have been treated as other diseases? You will note immediately that epidemic acute spinal paralysis may take special forms and the name polioencephalomyelitis is the better name, as the disease is not limited to the spine, but may affect the brain and even the nerves. You will also note that a disease with such a variety of manifestations is going to cause trouble for the diagnostician.

I am satisfied that the cases of simple poliomyelitis that I have seen in the past two or three years are different to some extent, from those that I saw previously. They are different in the manifestations of sensory symptoms, particularly hyperaesthesia. You will recall cases that after the first day or two practically no pain or sensory symptoms existed. I have had under my observation in the last year cases that have retained hyperaesthesia for months after the original attack. From the cases that I have observed there are some special points about the development of symptoms that will help to distinguish it from other diseases. For instance, the fever usually starts in reasonably high, reaches its height in twenty-four to forty-eight hours and in a week's time drops to, or below, 100. Paralysis occurs within this time, and the fever ends by crisis. Hyperaesthesia often appears with the subsidence of fever. The pulse in the beginning is rapid and out of proportion to the general symptoms except in the meningeal types. In the reported cases note the rapidity of the pulse. I know of no disease with paralytic symptoms with these characteristics so marked, and if kept in mind will enable you to distinguish many cases that otherwise would be a source of great anxiety.

DIFFERENTIAL DIAGNOSIS.

No. 1. The symptoms in this type are as a rule in keeping with the text book pictures which you are familiar with, and within forty-eight hours one should be satisfied as to the nature of the condition to be contended with.

No. 2. Or the ascending form, is usually the one that ends in death. It resembles Landry's paralysis, and raises a question as to whether the latter is another type of polioencephalomyelitis, and not a distinct type of its own. Many writers are of this opinion. It seems that the virus studied by Flexner is more violent in its effect than that of Landsteiner, and these ascending cases may be a more severe poison than those as in No. 1.

No. 3. In this type the paralysis is confined to the cranial nerves or occurs in the same cases that suffer paralytic symptoms of the

extremities. Isolated palsies of the seventh and third nerves from polio are very interesting. I know of a child under four years of age, who had a tonsillectomy, and after convalescence ran a fever and had complete paralysis of the seventh nerve. While the attending physicians regarded it as simple Bell's palsy, the parents were alive to the question, is it polio?

No. 4. There is some doubt about this form. Hemiplegia and spastic paralysis, suggesting brain lesions, have been noted along with well defined cases of polio, but whether they were true cases of polio is not established. Impairment of intellect has been noted in a small per cent. of cases.

No. 5. Manifest ataxia resembling that of Friedrich's ataxia and the lesion is confined to the cerebellum and midbrain.

No. 6. This form has been demonstrated by postmortem findings and resembles simple polyneuritis from other causes, however, in the latter you will note the onset of paralysis extends over a longer period of time, there is more marked loss of sensation, more tenderness along the course of the nerves, more vasomotor signs in the extremities, and usually more frequent in older people: while in polio the onset is sudden, the paralysis will not deepen, and the anaesthesia will not be so marked. One is a nuclear and the other a peripheral nerve disease.

No. 7. Various forms of meningitis have occurred during epidemics of polio. Last year in England an epidemic of cerebro-spinal meningitis followed an epidemic of polio, consequently, the meningeal form of polio will cause a good deal of trouble in distinguishing it from other forms of meningitis. Especially in childhood any irritation of the meninges will be ushered in by headache, vomiting, general restlessness and fretfulness, so in the meningeal types of polio the attacks may be introduced by headache, projectile vomiting, convulsions, etc., as in other types of meningitis. One cannot speak positively until the expiration of two to four days, unless we resort to lumbar puncture. This is the only means that we have at present which is thought to be of real diagnostic value.

It is said that the cerebro-spinal fluid is clear and void of micro-organisms and runs from the needle as if under high pressure. In meningitis of other causes it is floccular and contains diplococci intercellularis, streptococci or tubercle bacilli. However, the lumbar puncture cannot always be practiced, so we must rely upon our clinical signs.

In tubercular meningitis we usually have more premonitory signs, it usually occurs in delicate children, the attack is likely to be less severe and more prolonged without diagnostic paralysis, the pulse is often slow and the

fever curve is likely to vary, increasing with the development of the condition? If local paralysis occurs in tubercular meningitis it is likely to shift, come and go or vary from day to day. The tubercular patient is less sensitive to noise than the polio. In cerebro-spinal meningitis, pulse and temperature are high, rigidity, stiff neck and Kernig's sign are pronounced, while in polio stiffness of the neck may be present in various degrees, but it is said that the child can move the head from side to side. Kernig's sign is likely to be irregular and more marked in one leg than in the other. Difficult swallowing is attributed to pain and not to the rigidity. Again as we referred to above, the temperature reaches its maximum then drops, in other words, the fever lessens with the onset of paralysis. The mental state of polio is liable to be of great value. Delirium and stupor may be pronounced in cerebrospinal, may vary with tubercular, though deepen with the progress of the disease; while in polio it may not be so pronounced, start in with a flurry, clear up quickly or the little trick may appear as if suffering from brain disease and still "look bright."

No. 8. The abortive cases without noticeable paralysis present the greatest confusion. Each epidemic has furnished its portion, the most important diagnostic point is the occurrence of other cases with paralysis. Personally, I have not observed a case, but it seems a very difficult problem to correctly interpret these cases. So often the family physician meets cases in which he feels reasonably certain that there is a toxic condition but to say what toxæmia is present is never known. So you can appreciate the difficulty in these four types of abortive cases.

On account of the frequency of gastrointestinal symptoms in polio, and the frequency of enteritis occurring in the summer, the abortive form with leading digestive disturbances makes one feel uneasy, especially if the patient has been exposed in any way to a polio patient. Judging from the literature one is impressed with this fact. In enteritis the patient suffers more from digestive symptoms and little nervousness, in polio the nervousness is more pronounced than digestive disturbances.

In some epidemics cases have developed rash. From what I can gain from the literature, this may resemble scarlet fever or other infectious diseases. The literature leads one to believe that the rash occurs on the body instead of the face and hands as in exanthematous diseases. Last summer I was called to see a sick child with an obscure febrile history. The erythema was confined principally to the body. The doctor considered polio but it proved to be, as is often the

case in childhood, an irregular typhoid with hives.

As polio is a hot weather disease we must keep in mind the other diseases occurring this season of the year. Last summer I was called to see a little girl of ten years who had a little scratch on the hand, later she developed a marked spastic condition of extremities with only a slight nuchal stiffness, irregular temperature running as high as 102, no delirium or stupor, to the contrary was bright. She was a delicate child. We agreed that it was tubercular meningitis, and so it proved to be. However, tetanus was considered and the family physician at first thought of polio. In epidemics which have occurred cases of tetanus have been considered polio. While they may resemble it in the early stages and particularly in the milder cases, in twenty-four or forty-eight hours your clinical history and symptoms will enable you to distinguish between the two. Rabies, tonsillitis, diphtheria, acute rheumatism, and especially muscular rheumatism, as well as many other diseases with fever, have been mistaken for polio. Children with scurvy and weakness resembling paralysis must be mentioned. Last fall I was asked to see a bottle-fed child, who suffered a partial paralysis of one leg. The family physician considered it polio, the consultant thought it scurvy. The reaction of degeneration to the electric current and loss of reflexus ruled out scurvy.

Hysteria and syphilis need only to be mentioned, as these two conditions must be considered when paralytic symptoms appear. On account of the great variation in types of polio you can readily understand how the various cases may resemble clinical pictures and offer difficulties to the diagnostician.

It is important that we should be familiar with this new form of polio, as epidemics have occurred all around us. Covington, Ky., had a small epidemic last year, and it is not improbable that we may be called upon to battle with a more severe outbreak. I have confidence in the State profession and am sure they will be "on the job."

TREATMENT.

In the management of these cases it is convenient to divide them into three stages. First, that of the immediate attack and extending to the point of disappearance of pain. The duration of this stage may vary. Second, the period from absence of pain to the disappearance of hyperaesthesia. Third, the chronic stage. Unfortunately, no measure or treatment acts as a curative agent. Experiments along the line of serum therapy have been made but no results accomplished, consequently, we have been compelled to treat these cases symptomatically. The administration of urotropin has been tested and found

to be of service in increasing the incubation period several days and doubtless lessened the severity of the attack, but the observers in the various epidemics do not report very favorable results after the patient is once infected. However, I believe it is a good drug, and knowing its harmlessness would advise it. Intestinal antiseptics have been used but of course only influence that specific tract. As for elimination the salicylates are good. A mixture of potassium acet. spt. ether nitr. each dram and one-half; liq. ammon. acet. aqua. camphor, each three ounces, Larabee's fever mixture, has served me satisfactorily in febrile attacks in children. Pain should be controlled by application of heat or administration of anodynes or opiates. Whether counter irritation by irritants or cupping should be used, has been questioned. Can you influence the circulation of the cord by such measures? The arteries to the cord come from the vertebral, a branch of the subclavian and also the aorta which give off the lumbar arteries, and can not be influenced very much by local application to spine, consequently such measures are likely to do no good, and increase the discomfort of the patient.

No harm can come from gentle rubbing but massage should not be used. Some one has suggested the use of the galvanic current to contract the paralyzed muscle to relieve the pain. This procedure seems reasonable and I should use it when the occasion arises, however, we must bear in mind that we should not over-stimulate the peripheral nerve for fear of increasing the damage to the cord.

For the relief of sensitiveness the neutral bath or sponge bath may prove the best. Doubtless this is due to the meningeal irritation and measures directed in relieving congestion and promote elimination are to be preferred. If the fever continues high full baths should be used with caution, if used at all. Such measures act best in the second stage.

In the first stage the doctor should be mindful of future deformities. Proper care in seeing that the paralyzed muscle is not over-stretched by heavy bed clothes or faulty position will materially lessen the manifestations of contractions and deformities.

After the acute stages gentle massage and galvanism can be used. Your medication will vary according to the condition of the patient. If digestive trouble persists, that is the one thing to fight. In the recent epidemic in Idaho constipation existed in over sixty per cent, and often persisted even to the second stage. The amount of exercise permitted at this time is gauged according with the condition. Fatigue is to be avoided, but fresh air is essential to good health.

There is a prevailing opinion that all im-

improvements occur in the first two or three months. This is not correct, improvement has been noticed a number of months after the attack, and we should persist in our treatment and watch the progress of the patient. However, as your patient approaches the third stage you can well judge how much permanent damage has been done. Usually after the second week all muscles that respond to the faradic current will be restored. A better function may be obtained in some that do not respond. The nerve supply does not come from a particular level of the cord, hence the return of motion of apparently permanent paralyzed muscles after the congestion and oedema of cord has subsided and with the improvement in nutrition of the impaired muscle obtained by massage and electricity. In the third stage, the patient has reached a point where medication is of little value other than in the form of general tonics. The best results follow physical measures, massage, resistive movements, electricity, hydrotherapy, vibration, etc. Your aim should be according to Lovett:

1. The prevention of deformities.

2. The regaining of nerve and muscle power.

When and where not to use splints, braces, etc., must be judged according to the degree of paralysis and rapidity of improvement. Let them use their legs to develop muscle power rather than shield it by braces. However, we should not overlook the fact that watchfulness and care might save an ugly deformity. At this time it is well to have the orthopedic surgeon to help advise the policy to be pursued.

To improve the nerves and muscles, I do not believe anything can replace massage, including active and passive movements, and electricity. A trained masseur is to be preferred, but equal results can be accomplished by instructing an intelligent mother. As for the form of current used, the galvanic is best. Some favor the sinusoidal and high frequency, each will stimulate, but for its effect upon the deeper structures and paralyzed muscles, the galvanic can not be replaced by any other form of current.

The unfortunate or pathetic side is the fact that a large number of these patients go to the unscrupulous quacks. It is a shame that our laws are so constructed that such practitioners are permitted to prey upon the imagination of distressed people. The only consolation the honest doctor has is the feeling that he has done his best and that he is a subject to obey the law and not to make laws.

A WORD FOR PROPHYLAXIS.

It is generally accepted that this disease should be reported as other infectious and contagious diseases. The number of cases

occurring in an epidemic is comparatively small, I believe New York had the largest. The mortality is considered about eight per cent. The per cent. of total recoveries is from fifteen to twenty-five. This leaves practically seventy-five per cent. crippled more or less for life. It is estimated that about nine thousand epidemic cases have occurred in the past five or six years. Just think of the cripples? Do you not understand why parents are uneasy about this disease? It is difficult to give suggestions when so little is known about the habitat of the virus. The best policy is to take no risk even of the third person. The child should be isolated for at least three or four weeks after the attack. The organism has been found to exist in the nasal tract five or six months after the attack. A nasal wash of 1 per cent. peroxide of hydrogen, has been found sufficient and effective in destroying the virus. However, we should be careful not to use too strong solutions of any antiseptic for fear that we cause irritation and produce open surfaces. Persons who have abrasions or rather open surfaces, develop the disease quicker than those who have not. A case under my observation has a nasal tract affection and was exposed to a child who had some particular ailment without paralysis. Within twenty-four hours afterwards the child was sick and developed diphtheria. There were two other cases of infantile paralysis in the immediate neighborhood. Whether the nasal affection predisposed an early infection, or whether the sick child had an abortive polio cannot be answered.

The question of "carriers" is very important, but at present is not solved and it remains for the doctor to use care and advise the use of simple naso-pharyngeal antiseptic.

Dixon, of Pennsylvania, has isolated a micro-organism in the blood, but whether this will prove to be a virus of polio remains to be demonstrated, if so it will materially change our views of the disease and methods of prevention.

Injection of Blood Preliminary to Operations.

—Esch refers in particular to extremely anemic and weak patients with hemorrhagic uterine myomas. They need myomectomy at once and yet their resisting powers are at a dangerously low ebb. In order to improve conditions he injected defibrinated blood in two cases; three injections of 20, 15 and 30 c.c. and 15, 20 and 22 c.c. of the defibrinated blood in the course of fourteen days, improving the condition to such an extent that the hysterectomy was then safely performed. The hemoglobin rose from 25 to 46, and from 23 to 36 per cent., the improvement parallel in both cases and evidently strictly connected with the injections.

DIAGNOSIS AND TREATMENT OF
CEREBRO-SPINAL MENINGITIS.*

By J. H. PARKER, Corbin.

Fortunately this is not a disease that we see very often. It exists in the epidemic and sporadic form, and I believe that it was first described in 1805, and since that time it has prevailed in different localities in epidemic and sporadic forms. In the severe types it is usually easily diagnosed, while in the milder types it is more difficult. In the severe types the onset is sudden with severe pain in head and neck with more or less pain in muscles of the body, vomiting with projectile force and chills, the muscles are rigid and pain is increased on motion. There is usually fever for the first two or three days, usually not higher than 102, the pulse is slow the first few days and may go down to 50 or 60. The fever after the third day usually comes and goes and sometimes it will be subnormal. The eyes usually become congested and we will notice purulent secretion in corner of eyes, by the third day. Photophobia which follows immediately the onset of head ache, hyperaesthesia. The child complains if it is touched or moved in bed. The head is inclined to be thrown backwards. It wants to lay on its back often with limbs drawn up. Eyes partially open, taking no notice of anything, ask for nothing, only to be let alone. Bowels are usually constipated, kidney secretion is very much diminished and highly colored. Tongue after the third day is dry and red, mouth partially open. Then many times very restless, crawling all around over the bed and complaining of great pain, and not sleeping any as a rule. We do not have the convulsions with head almost drawn back between the shoulders, only in severe cases, and those that will most surely die. The vomiting usually subsides by the third day, however it may continue through the attack. There is complete loss of appetite.

Now in the milder cases or complicating ones, the symptoms are not marked and we may not be able to make our diagnosis for several days. As it may be complicated with croupous pneumonia and rheumatism, tubercular meningitis is of slower form and is not violent. In the typhoid types it is often very difficult to determine whether we have one or the other disease. I think that when cerebro-spinal meningitis is epidemic in the community we are more likely to call it meningitis whether it is or not. And it may be necessary to draw off some of the spinal fluid and to have a microscopic examination made before the condition can be determined.

Now as to the rash I have never been able

to find it in any of the cases that I have seen. Still all of the authorities speak of it prevailing in a great majority of cases in some form. But I have frequently seen the herpes labialis.

Kernig's sign has not proven to be of any help to me in making the diagnosis, for the children were so irritable about being disturbed that they resisted any molestation in the severe cases, and in the milder cases I do not think it is manifested. I have usually found that towards the end, in the severe cases, they lose control of the bowels and bladder, passing urine and bowels moving unconsciously. They complain of light and noise. I have had about all the cases I have ever seen in spring and early summer. I do not believe that I have ever seen this fact mentioned in any of the authorities, that I have read. And I only mention this that it may be brought out in the discussion, as to what the experience of other doctors has been along this line.

TREATMENT.

That is where we are in trouble again! So far our treatment is both symptomatic and supporting. We should keep our patient in a dark room with perfect quietude, no company should be allowed and patient should not be disturbed any oftener than possible. I think this is the most important part of the treatment, and about the hardest to enforce. The food should be simple and liquid, with plenty of water, or lemonade. We should make an effort to relieve the pain and of late years I have been using 1-4 grain of codeine hypodermically as often as was necessary, and in my absence to take it by the mouth sufficiently often to relieve the pain. They can almost certainly be relieved of pain in this way and be able to sleep and I think codeine disturbs secretion less than any narcotic we can use. Hypodermics are decidedly more effective than any other way and we will soon find that we will have to increase the dose to a half or three-fourths of a grain to meet the requirements. Children will often fuss about the first few doses hypodermically, but will soon permit it to be used without much complaint. I have always given from one to three grains of calomel in twenty-four hours to keep the bowels open, and with some hopes of reducing the congestion and inflammation of the brain and the spinal cord.

The bromides and iodides are so bad to take children will resist them so intensely that if they would accomplish any good I think the disturbance would do more harm than the medicine would do good. I think it is well to shave the head or clip the hair with clippers as closely as possible and to use an ice cap continuously as long as the fever lasts. And after the fever has subsided to use them from time to time. And if the fever should run high, I think the Leiter coil for the body is

*Read before the Whitley County Medical Society.

best. Do not think we should sponge to any extent or use tub baths, as the skin is too sensitive to the sponging. I do not think we should disturb them by putting them in the tub as they seem to be so easily frightened. In this condition the most absolute quiet is one of the most important parts of the treatment. We may use counter-irritants to the nape of the neck; not to blister, as it seems to annoy them and it interferes with application to the head.

Now as to the serum treatment. I have never used it nor seen it used, and I only mention this that it may be discussed.

So far fatalities have been appalling and those in most instances that do get well, were maimed to such an extent that we almost felt that it would have been a blessing to them and their parents if it had resulted fatally. While I have seen a few complete recoveries, I do not think more than 20 per cent. of the severe types recover. I recall an epidemic that I had several years ago of ten cases of the severe types. With six recoveries, three complete and three defective results, consisting of deafness and partial paralysis.

DISEASES OF PROSTATE.*

By S. M. HOPKINS, Demossville.

Our subject includes all the diseases of prostate. As this would make a very lengthy paper we will first briefly consider some of the rarer affections. Prostatitis, inflammation of prostate is rarely a primary disease, but is usually secondary to epididymitis, cystitis, proctitis and especially to specific urethritis, also traumatism externally, or internally by use of instruments. Excessive venery may be a cause. The disease begins with all the characteristics of inflammation, pain, redness, heat and swelling. With finger in rectum the swelling will be observed, also throbbing of the arteries. Fever is present, and urination painful.

The first thing in the treatment is to put patient to bed and open bowels. Put ice-bag to perineum. If retention of urine occurs use soft catheter. If pus forms it should be aspirated or incised through the perineum. The abscess often opens into urethra, or it may open into rectum, or through perineum.

PROSTATORRHOEA.

This is chronic prostatitis, and has about the same causation as the acute. It is sometimes seen in weak, scrofulous or tubercular adults about the time of puberty. The characteristic symptom is bluish-white discharge from meatus. The diagnosis between this and spermatorrhoea is made with microscope.

The treatment is general and local. Give any predisposing diathesis, the proper attention. The passage of steel sounds, and deep injection of ten to twenty grain solution of silver nitrate is the best local treatment.

Carcinoma and sarcoma of prostate may be either primary or secondary. A tumor of prostate in the young or middle-aged is looked upon with suspicion of malignancy. Hemorrhage often follows micturition and is usually profuse after use of catheter. If the disease is recognized before involvement of the lymphatic glands, while the trouble is altogether within the capsule, then the removal of the tumor is indicated, otherwise the treatment is palliative.

PROSTATIC CONCRETIONS.

The symptoms are those of the enlargement and inflammation that the stones produce. The subjective symptom is the interference with urination. The enlargement of gland is made out with finger in rectum. A positive diagnosis is only made by striking stone with a sound. The treatment is surgical.

We now come to the most important disease of prostate, viz:

HYPERTROPHY.

Pneumonia has been spoken of as a friend of the aged. Hypertrophy of prostate it seems might with equal propriety be called the curse of the old man. It is said that one man in every three between the ages of fifty-five and seventy-five has hypertrophy of prostate, and that one man in every nine has a troublesome hypertrophy of prostate. The disease comes on insidiously. The first symptom is increased frequency and decreased power in passing urine. The bladder is unable to completely empty itself, and soon sets up cystitis. With some patients retention of urine is about the first symptom they complain of. The bladder is distended, the contractibility of muscular coats are diminished. Cystitis, pyelitis, renal insufficiency and auto-intoxication are all caused by prostatic hypertrophy. Inability to empty bladder causes back pressure through ureters, and that in turn sets us a renal insufficiency which may cause auto-intoxication. Pyelitis acts in two ways, by its septic poisoning, and its influence on the function of kidneys. Patients who are compelled to use catheter daily often develop a septic infection, so-called catheter fever, supposed to be caused by some abrasion made by catheter, or by use of dirty catheters, but I have on hand a case: Man, aged 78, who has same kind of attacks, chills followed by fever, who has never used catheter, although he has great difficulty in passing urine. In these attacks he passes some blood. His prostate seems to be nearly as large as my fist. The objective symptom in prostatic hypertrophy

*Read before the Pendleton County Medical Society.

is dependent upon a digital examination of rectum. The proper treatment of prostatic obstruction is prostatectomy. In most cases an operation will be refused so we will be compelled to palliate. When the catheter must be used the patient must be instructed how to sterilize and use them. The bowels should be kept open. Alkaline diuretics sometimes renders the urine less irritating. Urotropine is the best urinary antiseptic. In the septic cases irrigation of bladder with boric acid solution often gives relief. Have patient drink plenty of water, which is best of all diuretics. It is well to advise patients to avoid venereal excitement; this advice may not always be heeded. Forchheimer recommends massage of the gland.

Prostatectomy virtually began in 1885, and for several years was performed in a crude way. Most of our surgeries published before 1900 do not even mention the operation, but in the last decade the operation has been so perfected that to-day it almost heads the list of pain relieving and life-saving operations. Like as in the operation of appendectomy, it is here that procrastination gets in its work. Some surgeons prefer the suprapubic and others the perineal route. It is not the purpose of this paper to discuss the route, but to urge an early operation, while the bladder and kidneys are healing.

GONORRHOEA AND SYPHILIS.*

By J. J. RODMAN, Owensboro.

Rev. Charles Coppens, S. J., Professor of Medical Jurisprudence in Craighton Medical College, Omaha, Nebraska, said:

"It is the physician's beneficent task to lessen the weakness and suffering of the body, and to prolong human life in well-preserved vigor to a green old age. It is not the least important part of his valuable services to provide for the sound and vigorous propagation of the human race to future generations. If the purpose of the physician were only to make money, his task would then be to multiply diseases and infirmities; he would then be as great a curse to mankind as he is really intended to be a blessing—and an immense blessing he will be to his fellow men if he studies to remove even the remote causes of diseases and untimely deaths. He can do so in a variety of ways, and not the least by providing against sexual excesses and abuses. These are a copious fountain of ills to humanity. A host of diseases, such as tuberculosis, diabetes, cardiac and nervous affections, epilepsy, hysteria, general debility, weakness of sight, languor and general worthlessness, hypochondria, weakness and total loss of rea-

son, and, in married life, impotence and sterility, are some of the effects of venereal diseases."

Brother sailors on the sea of life, these words of Father Coppens are my apology for taking you out this evening on those filthy oceans of venereal diseases, and pointing out to you some of the dangerous ports thereon.

For years the medical profession has been trying to arrive at some means by which these diseases could be lessened. It seems to be the consensus of opinion that legislation will do no good, and that the only way to check the onward march and frightful progress of these diseases is by educating the people to their terrible effects upon the individual affected to his family and to the State at large.

By venereal diseases is meant diseases that are brought on by venery or illicit commingling of the sexes. There are many such diseases, but we shall consider two of them this evening, syphilis and gonorrhea.

Syphilis is essentially a constitutional disease—that is, it is in the blood, and affects the whole system. It starts first as a small sore or ulcer, called a chancre. It seems very insignificant, and, to the uninitiated, of small consequence. It may appear anywhere on the body, but its favorite spot is under the foreskin of the penis. It usually heals in two to four weeks, and nothing more is thought of it. In from six weeks to three months the one who possessed such a sore begins to feel his bones ache, has slight fever, especially in the evening. In a few days a rash appears on his body. Then it is that he consults his physician. He has perhaps forgotten the little primary sore until questioned about it by the doctor. Now he has secondary syphilis, and if he does not put himself under treatment and continue it heroically for at least eighteen months he will always have syphilis.

After a few weeks of treatment all the symptoms will disappear, and he will consider himself well. But not so. Oyma has merely halted to recruit his forces and plan for another and a more severe blow. Syphilis is a curable disease, but it is seldom cured, because the patient gets tired of taking medicine, and ceases to visit the doctor's office, believing himself to be well.

Following the disappearance of the rash, there is generally a lull. Then comes the tertiary or third stage in the shape of enlarged or suppurating glands, sore throat, ulcers in the mouth, rheumatism and a thousand and one manifestations of the presence of the malady. It is in the beginning of this stage that it is so contagious, and many innocent people contract it. With a small abrasion on your lip, you may give it to your wife, your children or to any one whom you may kiss, with a mince patch in your mouth you may

*Read before the Nelson County Medical Society.

leave poison on your drinking cup or glass, and any one drinking after you is in great danger of contracting the disease. Infants contract it from their nurses. Innocent and pure wives contract it from their husbands. A syphilitic couple seldom bring healthy children to the world. Nearly every pregnancy results in miscarriage, and if the child should live to full term it is almost sure to be diseased. Morrow says: "No disease has such murderous influence on offspring as syphilis." Without doubt this disease is meant in the Bible where it is said that the sins of the fathers shall be visited on their children, even to the fourth generation.

Thirty-one years ago I visited a syphilitic hospital on Blackwell's Island, opposite New York, and the impression is very vivid on my mind yet! Those poor victims had sores on all parts of their bodies. In some of them the private parts were sloughing off, and the stench—that was before the days of antiseptics—was sickening.

Syphilis is a private disease and we have no means of collecting statistics. Tannier estimates that 7 per cent. of the citizens of Paris have syphilis. According to Weiss, there are 150,000 syphilitics in Berlin. In New York City it was estimated that 250,000, or 15 per cent. have it. Fifteen per cent. of the present population would be 675,000. Is it not frightful to think of this vast number of people in our midst, afflicted with this most loathsome and contagious disease, and nothing being done to check it?

You are perhaps ready to say that nothing can be worse—and you are right. Wars and floods are insignificant when compared with it. But what would you say if I should tell you that syphilis is all that I have pictured it and is even many times worse, yet it is insignificant in comparison with that other fruit that is gathered from the brambles of sin—gonorrhea.

"What! You do not mean to tell us that gonorrhea is worse than syphilis?" say you. "Why I would as soon have a case of clap as a bad cold." How often we hear that expression! Where ignorance is bliss, 'tis folly to be wise.

Some of the severest sufferings it has ever been my lot to witness were the result of gonorrhea. Let the inflammation travel back to your testicles, as it frequently does, and you will conclude that a bad cold would be a pleasure in comparison. I had a young man patient in a boarding house conducted by a widowed lady. He kept up so much complaint that she was alarmed and asked me if he was dying. A married lady contracted gonorrhea from her husband. It traveled back to her ovaries, and her sufferings were frightful to witness. Gonorrhea can and does

cause suffering of the severest kind, but still it would not be so bad if it were confined to the men who associate with the women of the street. But, as some one has said, "Like the daily bread, the man divides it with his wife." Morrow says: "No other disease has such a destructive influence on the health and procreative function of women."

Is it widespread? It is admitted by most modern writers that it is the most universally prevalent of diseases or disorders. It is estimated that 75 per cent. of the male population of our cities have had gonorrhea at some time in their lives, while only 5 per cent. to 18 per cent. have contracted syphilis. Noeggerath has stated that of every 1,000 married men in New York, 800 have had gonorrhoea, from which the great majority of their wives have been infected. Is that not a startling statement, and coming from one who makes a specialty of this disease? We are bound to give it some weight. We have organized a campaign against the White Plague, but where is any one found fighting the Scarlet Peril, which is many times worse? Morrow says that his observation at the New York Hospital extending over a period of several years, would indicate that fully 70 per cent. of all females who came there for treatment were respectable married women who had been infected by their husbands.

The introduction of gonorrhea into married life entails consequences infinitely more disastrous to the health and life of the mother than syphilis. She may be rendered a life-long invalid with her hope of children absolutely extinguished. Women become irrevocably sterile, not to speak of the danger to life itself, which, in many instances, can be averted only by the sacrifice of their reproductive organs.

Janet says: "If we compare, from a social point of view, the importance of gonorrhea with that of syphilis, gonorrhea is to syphilis as 100 to 1; not only from the standpoint of the number of persons attacked, but also from the standpoint of the gravity of the lesions and their perpetuity. Gonorrhea modifies, in a manner often permanent, the genital organs of men, renders them infinitely dangerous for the women they approach, causes all the pelvic inflammations which to-day give the surgeons three-fourths of their work, and conducts, finally, both men and women to sterility."

It is claimed that one-half of all the sterile women are made so by gonorrhea. Thirty per cent. of the blindness in the world is caused by gonorrhea. The father gives it to the mother, and the poison gets into the eyes of the infant at birth, causing inflammation and blindness. More than one-half of all the abdominal sections done on women in this coun-

try are required on account of infections, adhesions and pus collections due to gonorrhea. Dr. Joseph Price, of Philadelphia, who, perhaps, does more abdominal sections than any other man, says that of 1,000 such operations in his practice, 950 were attributable to gonorrhea. This takes into consideration only the women actually mutilated by the surgeons. No accounting is made of the larger number of infected women who are not operated on, but remain under the care of the family physician, dragging out a miserable existence of semi-invalidism, suffering excruciating pains each month.

As a depopulating agency gonorrhea stands at the head. Neoggerath asserts that 50 per cent. of the sterility in women is caused by gonorrhea. Among 81 married women affected by gonorrhea, 49 were absolutely sterile. The remaining 32 had borne only 39 children. Neisser declares that more than 45 per cent. of involuntary childless marriages and limitation of the number of children is due to gonorrhea and its sequela in man and woman. Lierascher found that out of 227 women, 121 were sterile because of gonorrhea. Gruenewald reports 53 per cent.; Kammerer 83 per cent., and Chrolok 40 per cent. of sterility in women caused by gonorrhea, while Williams insists that 73 per cent. of all abortions are due to inflammations arising from gonorrhea.

Syphilis poisons the fountain head of life. It may run on for years and finally be eliminated, but gonorrhea, by inflammation and adhesions of the tubes in both men and women, effectually and permanently dams up life's fountain head—and oh, what a damned dam it is! Don't stop your crusade against the White Plague, but at the same time take up arms against this many-times worse enemy of humanity, the Scarlet Peril.

Garrigues reports the following: "I knew a girl in perfect health, of great beauty, of Jynnesque proportions, combining muscular strength with regularity of features and graceful movements, possessing a most amiable disposition—in brief a paragon of a wife to make a husband happy. She married an excellent young man in a good business. It was a marriage based on mutual affection and held out every promise of a long and happy union. A week after her marriage she came to me with an abscess in one of Bartholini's glands and a profuse discharge from the uterus. She was under treatment for months. The abscess was opened and drained; the uterus was daily washed out with powerful germicides, ennetted and drained and finally treated with electricity. During her menstrual period she was seized with violent pain in the lower part of the abdomen, and had a temperature of 105 degrees F., with a pulse of

140. Two days later a swelling appeared in the pouch of Douglas. In a few days more the swelling appeared three inches above the pubis. An incision in the vagina gave exit to a large quantity of pus. The peritonitic infection continued to spread, and laparotomy was performed. Some pus foci was opened, but the appendages were found to be so imbedded in a mass formed by the uterus, the intestines and newly formed tissues that their removal was impossible. Finally she died."

Prince A. Morrow reports this case: "A young man whom I had treated several years previously for syphilis and discharged cured, came to me four years after I had dismissed him, stating that he was to be married in a month, and wished to know whether there was any danger of infecting his wife or contaminating his children with syphilis. As he had had a thorough treatment and a long exemption from accident he was assured that he could marry with safety. Just as he was leaving he remarked, 'Oh, by the way; I have had a little gleet discharge for three or four years. I suppose that will make no difference.' He was assured that it might make a great difference. Examination showed that he had a couple of strictures, with abundant filaments in the urine, containing gonococci. Upon my protesting to him that marriage in his present condition was impossible, he insisted that it must go on, that all the arrangements were made, and that the wedding could not be postponed. It was then explained to him fully the probable and almost certain infection of his wife, with serious consequences, but it was evident that the statements were received with downright disbelief. He assured me that he had had frequent intercourse with women, and knew that they had not been infected by him. He was deaf to all expostulations and protests. The marriage took place at the time appointed. A few weeks later he sent for me, saying that his wife was suffering horrible pain. Upon my visit I found a beautiful young woman doubled up with peritonitis, with a profuse purulent discharge from the urethra and neck of the uterus, with evidences of purulent salpingitis. She was desperately ill for some two or three weeks, and then got better. At his express insistence she remained under my care for nearly a year. During that time she was an invalid, scarcely able to walk, spending most of the time on a sofa, and at each menstrual period there was a recurrent attack of purulent inflammation of the tubes and ovaries. He was finally persuaded to consult a gynecologist, but as both he and his wife were anxious to have children the operation was deferred. She was a confirmed invalid for three years, and finally had both ovaries removed. She is now in miserable health, and

will probably remain a life-long invalid."

These two are not extreme cases. They are average cases, taken from every-day life. Nor are they rare cases, but all too frequent. Every physician with experiences meets them, often. Why, sir, since you appointed me to write this paper, I was called seven miles to the country—and the country is supposed to be almost free from this peril—to see an elderly lady with the attending physician. He gave me no hint as to his diagnosis. I had never seen the people before, and did not see the husband then. The woman was very ill, the day before her temperature had been 103 degrees F., abdomen very tender and sore, a distressed countenance. Let me tell you in technical terms the course of her complaint. You can follow and understand them. It began with a severe vaginitis, then cervicitis, endometritis, salpingitis, oophoritis, and a circumscribed peritonitis. In short, she had a gonorrhea as a present from her husband from a prostitute. There could be no mistake. The picture was too plainly drawn. Her daughter was attending her. Small children, playing in the room, called her "grand-mother." The beastly husband, father and grandfather had degraded his wife to the level of the woman of the street. Beastly! Just the same as 75 to 90 per cent. of us are. "Oh, what men do; what men dare do, what men daily do, not knowing what they do!"

When I told you we would navigate filthy seas, perhaps you did not comprehend, and perhaps now you are fearful lest we all be swamped. Let's pull for the shore.

Young man, it pays to be continent. Our passions were given to us for a noble purpose, the propagation of the race, and not to bring suffering and degradation upon ourselves and those nearest and dearest to us. I know your passions are strong, but reason and judgment are placed as guards over them, and with sufficient strength to control them, if used at the right time. Treat every young woman like you would want other young men to treat your sister. If you always do that, you will never have a case of elap. Don't say that the woman seduced you. The women who make advances to men before they have been ruined by some other man are so rare as to be curiosities. Some of you may doubt that statement, but over thirty years of experience and observation have confirmed me in that belief. If she makes advances it is your duty to yourself to beat a hasty retreat, and do not stand on the order of your going, for you may be sure she is rotten. Would you hasten to run if you knew she had smallpox? She is the hotbed of a disease many times worse.

Many men boast that when they want anything, they go where it is for sale and buy it. They at the same time get a through ticket

to hell, over a very rough road. "But I am careful, and never touch a woman unless she has a doctor's certificate that she is all right." No doctor can truthfully say that she is all right. The disease may be, and usually is, so hidden that he could not discover it with a microscope. The doctor who gives those certificates is the devil's agent, and will do all the lying his master requires of him. Don't be led astray by a doctor's certificate, for it is not worth the paper it is written on.

A young man came to consult me about some ailment. He said he had consulted another physician some days before, who, after listening to his symptoms, said, "Charlie, do you get enough?" We are taught not to judge, lest we be likewise judged, but I would tremble if I ever advised a young man to be immoral for the benefit of his health. Besides the immorality such conduct is prejudicial to health.

I began this paper in the words of Father Coppens, and I cannot better end it than in his words that follow:

"Venereal excesses undermine the vigor of the constitution, bring on a host of bodily infirmities, exhaust the system before the proper time, debauch and degrade the mind and will and prepare their victims for an early grave or a decrepit old age. On the contrary, personal purity promotes health and vigor, lends beauty to the form, gives a keener edge to the intellect, adds energy and brings success to manhood and prepares for an enduring and honored old age.

ONE YEAR EXPERIENCE WITH "SALVARSAN."

By D. H. MCKINLEY, Winchester.

As our medical journals have been crowded with hundreds of articles on "Salvarsan," it is not my intention to inflict a voluminous discussion of this subject upon you, but merely to give a brief summary of my personal experience with this remedy during the past year.

On January 4th, 1911, I gave two cases of secondary lues an intra-muscular injection of 0.6 gm. each, in alkaline solution, and shortly after a case with pronounced tertiary lesions received the same treatment. Since this time I have used the intra-venous method exclusively, employing the Heidingsfeld apparatus for this purpose, and to December 1st, 1911, have administered "Salvarsan" to the following twenty-seven cases.

One primary, one of malignant syphilis, ten presenting active secondary lesions, seven presenting active tertiary lesions, eight of la-

*Read before the Clark County Medical Society.

tent syphilis of from six months to five years' duration.

Two of the secondary cases, in both of which mercurial treatment was discontinued, showed a return of a positive Wasserman reaction, one in four and the other in five months. Both were given a second dose of "606" and mercurial treatment instituted. In the malignant case, which was referred by a local physician, and which had resisted the usual treatment, the result was brilliant, but temporary, this patient had an infection of four months' duration, of a most malignant type, with a severe syphilitic iritis. All symptoms had vanished within a week, when I lost sight of the case, but I am informed that there was a recurrence five months later. While not cured, this patient's eyes, and probably his life was saved by the one treatment. These three are the only cases that have relapsed.

Perhaps the most interesting case in the series was that of a woman, four and a half months pregnant who came under the care of Dr. Howard Lyons. This was one of those pitiful cases in which the husband after receiving a very brief and inefficient mercurial treatment, was pronounced cured by his physician, and believing this to be true got married. On August 19th, Dr. Lyons and I gave both husband and wife an intravenous injection, the former 0.6 gm. and the latter 0.5 gm. Both presented typical secondary cases, with eruptions, mucous patches, etc., which cleared up promptly, and there has been no return of symptoms to date, although there has been no other treatment administered.

On Dec. 31st, Dr. Lyons delivered the woman of a ten pound girl, the baby has shown absolutely no sign of lues so far and is apparently perfectly healthy. No Wasserman has been made simply because the father could not afford to pay the usual laboratory fee.

Of course none of us believe that "Salvarsan" is the ideal *therapia sterilisans magna* it was proclaimed at first to be by some enthusiasts, but that it is by far the most potent agent we have for combating specific infection (one dose equalling a prolonged and energetic mercurial treatment) I have no doubt.

In none of my cases did it fail to produce a prompt symptomatic cure, and in none were there bad results of any sort.

With a faultless technique I believe the intravenous administration of "Salvarsan" is devoid of danger, and is the treatment to be employed. We should not rely solely upon it however, but should combine with it either mercurial inunctions or injections of mercury salicylate, and in most cases repeat the dose of "Salvarsan" in four to eight weeks.

In this way I believe it entirely possible

to permanently cure the average case of lues in from six to twelve months, but of course it will take several years to prove whether or not this is true.

In cases of long standing it is probably advisable to give a course of the iodides, preceding the administration of the "Salvarsan," in order to aid in the absorption and opening up the lymph channels, in this way endeavoring to reach the more or less isolated foci.

SALVARSAN, WITH REPORT OF SOME CASES.*

By P. D. GILLIM, Owensboro.

Salvarsan, or "606" is the brilliant discovery of Paul Ehrlich, an imaginative methodical and conscientious investigator, who happened on salvarsan not by accident, but gradually worked out a well defined plan, with the results that he has given us one of the most powerful and efficient of spirochaetocides.

Salvarsan is marketed in ampoules containing six-tenths of a grain of the drug, a light yellowish powder, acid in reaction and requires an amount of careful preparation before it is ready for use.

Salvarsan has been given subcutaneously, intramuscularly and intravenously, though the subcutaneous method is not as popular as the other two methods. I have had the opportunity of using salvarsan in my practice thirteen times, and with your forbearance will report some of these cases very briefly.

Case No. 1.—Young man thirty-one years of age, initial lesion eight years previous, took intermittent treatment for about five months after infection resulting in a subsidence of visible symptoms for about two years, during which time he indulged in alcoholics at times to excess. Patient claims not to have been free from symptoms of lues in the past five years in spite of almost continuous treatment. Patient reported to me in November, 1910, having just returned from his third trip to Hot Springs. Examination revealed a body littered with scars ranging in size from one-tenth inch to three inches in diameter, his active lesions were in the buccal cavity and pharynx, his pharynx and mouth were literally covered with ulcers, he had an ulcerating gumma of the tongue, his tongue being indurated and fissured over its entire surface, this condition gave rise to a profuse and very foul smelling discharge.

I immediately placed him under treatment giving heroic doses of potassium iodide also Fowler's solution and mercury though previous mercurial treatment had so destroyed his gums and he showed such intolerance to mer-

*Read before the Daviess County Medical Society.

cury as to preclude very large doses of the latter drug.

Under this treatment the ulceration became less painful, the foul discharge subsided, deglutition and speech improved some, but his improvement ceased at this point, and finally in spite of all this treatment his symptoms increased in severity until my patient was in worse condition in April, 1911, than when I began treating him. On April 22nd I gave him an intramuscular injection of the neutral suspension of salvarsan in the gluteal muscles. Aside from a mild local reaction, and slight elevation of temperature on the second and third day, following the injection, there were no other symptoms, on the fourth day I began noticing improvement.

The condition ceased to pain, all discharge ceased and by the tenth day all sores were healing nicely, the fourteenth day found the induration in tongue gone and the healing process uninterrupted.

Two weeks after the injection I began injections of sodium cacodylate and gave three grain doses hypodermatically on alternate days until twelve doses were given. This for the purpose of fortifying and supporting the action of the salvarsan. My patient gained ten pounds during this time, and five weeks after the salvarsan injection he was positively free from all luetic symptoms and has remained so to the present time.

Case No. II.—Young man, age twenty-four years, contracted syphilis three and a half years ago, gave history of having chance followed by secondaries all of which responded to treatment with exception of occasional mucous patches in mouth, and throat which were aggravated by cigarette smoking.

Patient had in all about eleven months' treatment, ending with an eight weeks' course at Hot Springs, he had no symptoms for two years when about six months ago he noticed some pain and soreness in nose, soon followed by a very foul odor, patient complaining that the odor of his breath was sickening to him. An examination revealed a necrotic process, on the septum showing a condition which would soon develop into the typical saddle nose. On July 25th I administered an intramuscular injection of the neutral suspension in the gluteal muscles, local reaction was not severe, no general reaction aside from slight rise in temperature, on the second day, within two weeks all odor and pain was gone and an examination revealed a healthy granulating surface, at this time I began injections of cacodylate of sodium, giving light injections in all. An examination five weeks afterward disclosed no sign of his trouble. I then advised a course of mercury but my advice was not heeded, he has had no recurrence up to the present time.

Case No. III.—Middle aged man, infection dates back nine or ten years, my history of this case is meager, but I think he displayed mild symptoms occasionally during this time, family history tubercular.

About eighteen months ago he became very much worse, cerebral symptoms developed, causing him to lose his reason.

Gummata formed over various parts of his body, ischio-rectal abscess developed, periostitis in femur involving knee-joint, and a necrotic process of the humerus were two very aggravating symptoms in this case.

Under heroic and exhaustive treatment by his physician some of these conditions improved and his reason returned.

When I first saw this patient in company with his physician I found the following symptoms. Mind undisturbed, ptosis of left eye lid, iritis with fixed pupil in same eye, constant headache, periostitis in lower end of femur involving joint, three or four gummata enlargements over body, profound weakness and anemia, face and feet swollen, and a most agonizing and constant pain in area of right side which pain we afterward found to be due to a necrotic process in the humerus directly under the nerve. An intramuscular injection of five-tenths of a grain of the neutral suspension of salvarsan was given, local reaction mild, pain moderate, elevation of temperature on second and third day, a most foul smelling perspiration was also observed for three or four days. The injection had no depressing effects whatever, patient began feeling better next day, in three weeks he was much improved, the ptosis in eye had cleared up, he suffered very little pain, swelling in face, feet and knee, had disappeared, the gummata left as if by magic, general health had improved wonderfully but this condition did not last long, and while many of these symptoms did not recur, this patient's pain in arm, recurred as violently as ever, and required an operation for the removal of necrosed bone, which has temporarily relieved him, and he is gaining ground again. This in my opinion is a case for a second, and even a third dose of salvarsan.

Case No. IV.—Patient contracted syphilis five years ago; neglected treatment for the first year, but has since been under almost constant treatment, including a sojourn at Hot Springs, patient came to me for treatment six and a half weeks ago with scattered syphilids over his body and a laryngeal ulceration that had arisen over a year ago, patient told me he had not spoken over a hoarse whisper in twelve months. I gave an intramuscular injection of Salvarsan prepared in an alkaline solution. This injection produced more pain and local reaction than any of the

other cases in which I have used this drug, no general reaction.

Patient's improvement was noticeable on the third day and in two weeks all laryngeal irritation and other symptoms had subsided and his voice was clear and natural.

At the end of two weeks, I began the use of cacodylate of sodium, three grain ampules every second day until I gave twelve injections. Patient has had no recurrence at the present time.

Case No. V.—Middle aged woman, infection of fourteen years standing, took treatment for one year following infection.

Patient stated she had been free from any manifestations of her trouble for twelve years, when about sixteen months ago a granulomatous condition developed involving two-thirds of the surface of nose. Her nose resembled pictures I have seen of *granulosis nasi rubra*, and had been diagnosed and treated for various skin diseases with no benefit.

Gave patient six-tenths of a grain of the neutral suspension of salvarsan, local reaction mild, no general reaction. In sixteen days following injection the nose had entirely healed, normal in size and all that remained of her trouble was a slight redness of the skin.

There are eight other cases of syphilis in which I have used salvarsan, most of these were cases of early syphilis with active secondaries, all visible symptoms cleared in a remarkable short time.

I have used mercury and sodium cacodylate following these injections, and no symptoms of syphilis have manifested themselves up to the present time.

So much from my experience with this new drug. Now what are our conclusions concerning "606"? Is it a dangerous drug? I consider its dangers have been overestimated. It is a potent drug and would probably offer an element of danger to one showing an arsenical idiosyncrasy.

Wechselmann has given 4,500 injections of salvarsan and has never observed any toxic effects from the drug. However, some deaths have been reported after its use, but we must remember that it has been a remedy of last resort in a vast number of cases, and the deaths due to this drug have been relatively few as compared with the deaths following the intensive use of mercury, about eighty deaths are on record, due to the injection of the mercurials alone. Both Erlich and Wechselmann regard salvarsan no more toxic than our old friend mercury.

My paper has dealt with a new remedy which has not definitely found its place in modern medicine, but from my brief experience with this drug and the vast experience of others, I am convinced that Erlich's sal-

varsan is not a *therapia sterilisans magna*, but a most powerful weapon in the treatment of syphilis. It has not rendered mercury and iodide of potassium obsolete and never will.

And not unlike the administration of any powerful drug, must be given properly if given safely.

ANIMAL EXPERIMENTATION; ITS CONTRIBUTION TO MEDICINE AND SURGERY.*

By W. E. SENOUR, Bellevue.

Recent progress in medical research is one of the most extraordinary achievements of the present century.

Such research is absolutely the most humane of human occupations, because it has prevented human suffering and death upon a most extensive scale, and because it promises to achieve in the future greater triumphs over pain and death.

Observation and experiment alone have furnished the real foundation for scientific knowledge. All who are acquainted with the history of science recognize the fact, that not a single one of all the great truths of modern physiology, pathology, bacteriology, materia medica, and therapeutics has been established without the aid of experimentation upon living things.

Every great advance in medicine and surgery from the time of Galen, 131 A. D., to the present moment has resulted either directly or indirectly from animal experimentation. Galen devoted much time and study to this work having made more than six hundred sections of living animals.

As a result of his labors he demonstrated that the arteries contained blood during life and not the breath of life as taught by Aristotle.

While he was lauded by many of the research workers in his time, none employed his methods, so that for many centuries we find that men were content to worship his name and doctrines; they invented theories that were no help either to science or practice. While the heart and the blood vessels were known to the ancients, yet the discovery of the circulation of the blood waited fifteen hundred years for Harvey's frequent examination of many and various living animals. About one hundred and thirty years later Claude Bernard made the first experimental studies of digestion, yet the true experimental studies of digestion as we understand it today is of comparatively recent date.

Among the ancients there was great diversity of opinion as to the nature of digestion. Hippocrates regarded it as a coction:

*Read before the Boone County Medical Society.

Galen, a fermentation as of wine in a vat; while Boerelli saw nothing more in digestion than a purely mechanical act, a work whereby the ingesta was finely divided and pulverized.

During the early part of the eighteenth century there was much controversy concerning the nature of digestion. In order to settle the controversy, the Academy of Florence offered a prize to the one producing the best work upon digestion. Tiedeman and Gmelin of Germany and Leuret and Lassaing of France submitted works of equal merit and the Academy divided the prize between them. The writings of Tiedeman and Gmelin were of special interest on account of the great number of their experiments, from which came not only the absolute proof of the existence of the gastric juice, but also the study of the transformation of starch into sugar. Then digestion was finally recognized, not as simply dissolution, but a true chemical transformation.

It was also about this time that Bernard discovered glycogen in the liver. This discovery had a profound influence upon physiology and pathology, and was a valuable link in the chain of special problems connected with digestion and nutrition. Up to this time it was conceded by those engaged in experimental work that the animal body was composed of a bundle of organs, each with its appropriate function. Such a conception did much to narrow inquiry, since when a suitable function had once been assigned, there seemed no need for further investigations. To this new function of the liver, he gave the name of internal secretion.

To-day no part of physiology is being more fruitfully studied than that which deals with the changes that the blood undergoes as it sweeps through the several tissues. The study of these internal secretions constitutes a path of inquiry, which has already been trod with conspicuous success and which promises to lead to untold discoveries of the greatest moment. Bernard also pointed out the fact that the pancreas, besides aiding in digestion, pours into the intestine an internal secretion, a constituent of the blood that belongs, not only to the digestive system but like the thyroid gland and supra-renal capsules to the whole chemistry of the blood and tissues.

By means of vivisection the physiological function of the spleen has been pointed out. It has likewise demonstrated the possibility of health after removal of the spleen. The thyroid gland was known from early times, but the discovery of its function and the consequent discovery of the remedy for myxedema and cretinism was the fruit of recent experimentation.

It was Louis Pasteur, who, less than forty

years ago, by his discoveries of the fundamental principles of modern science of bacteriology opened up a vast field for medical discoveries in the cure and prevention of disease. It was Pasteur and his pupils, who, by inoculating animals with bacillus of chicken pox, pointed out the way for the discovery of the principle of vaccination by means of bacterial cultures of lessened virulence. To determine the degree of virulence of all vaccination products used throughout the civilized world, they must first be tested upon laboratory animals. The discoveries of Pasteur gave new life to the principle of vaccination against small-pox, discovered before him by Jenner.

During the eighteenth century one in every ten deaths was due to small-pox.

To-day the average physician may practice a life time and never see a case.

It was Pasteur who discovered the effective means for the prevention of Rabies. By experimenting upon dogs and other animals, he succeeded in producing an emulsion of the brain and spinal cord of the animals, which, when injected into an animal bitten by the rabid dog, absolutely prevented the animal from contracting the disease.

Whereas, the mortality has been reduced from 50 per cent. to 1 per cent.

Stimulated by the results of Pasteur, Lord Lister experimented upon various animals with different antiseptic fluids, and from his work dates the beginning of our modern antiseptic surgery.

Prior to the experimental work of Flexner upon monkeys in case of epidemic meningitis, the mortality was 80 per cent. and in severe epidemics 100 per cent. To-day with the serum he has perfected we have a mortality of 20 per cent.

Our knowledge of tuberculosis has been greatly accelerated by experimental work. In 1860 a French investigator showed by inoculating animals with the product of this disease that it could be transferred from one animal to another; that it belonged to infectious diseases. By applying the methods of bacteriology derived from the experimental study of other diseases, the bacillus tuberculosis was discovered by Koch. Having discovered the cause, we were able to guard against infection and spread of the disease, thereby greatly reducing our mortality. It has influenced public opinion, whereas certain laws providing for the prevention of spitting in public places and conveyances have been enacted. It has brought about the present rigorous control of the meat and milk trades. While the discovery of the remedy by Koch failed to fulfill the hope it inspired, still it brought about an immense improvement in the early diagnosis of all cases.

Dr. Trudeau, one of the oldest and best known phthisiologists in this country, also, founder and director of the Adirondack Cottage Sanitarium, says, "Everything that has a direct bearing on the prevention of tuberculosis, everything that has changed man's attitude toward it, from one of apathy and hopelessness when the infective agents which produce tuberculosis were unknown, and the disease was thought to be inherited and always fatal, to the growing hope of its conquest, we owe to animal experimentation. The conquest of tuberculosis in man and animal through the production of some safe method of artificial immunity seems, even to those hitherto skeptical, no longer visionary and unattainable."

Sir William Osler, when speaking of the discovery that malaria is transmitted to man by the mosquito, said, "The discovery of the transmission of malaria by mosquitoes, the knowledge which was destined to make the tropics habitable, never would have been made without animal experimentation. The men who made these experiments had spent their lives in the research laboratories and their whole work was based upon such experiments."

Epidemic poliomyelitis prevailing in this locality but a short time ago is being studied by inoculating monkeys with the virus of the disease. Flexner has already discovered that the disease is contagious, that the causative germ of the disease is so small that even our highest power microscopes fail to give us a definite image of it.

He has also learned that the nasal mucous membrane furnishes a suitable nidus for the entrance of the germ, and that spraying the lining membrane of the nose with a weak solution of hydrogen peroxide will destroy the virus.

I am satisfied that the cancer problem which is being carefully studied in all research laboratories throughout the world will be solved by means of animal experimentation, since we have learned more from this method during the past twenty-five years than during the preceding twenty centuries. We have learned that it is possible to transmit to the dog, cat, mouse the same cancerous growth that affects the human family.

The whole pathology of Tetanus was found, proved, and interpreted by the help of experiments upon animals. Tetanus is one of the hardest of all diseases to control. The first sign of it is the last stage of it.

There is no warning; it may be a healed scratch till the central nervous system is affected with the sudden and rapidly advancing degeneration of certain cells.

A disease produced experimentally in animals offers innumerable advantages to those interested in its natural history. It often af-

fords the earliest and surest method of diagnosis, since the successful treatment of the sick is directly dependent upon the diagnosis. For it often happens that an early and certain diagnosis constitutes the difference between life and death. It is the only method of obtaining the significant stages of the disease in complete series for a more minute examination.

Only the interruption of an experimentally produced disease of successive periods in its course can afford exact information as to the exact method by which infection spreads and immunity is produced. The changes in an anatomical structure, the lesions of disease can only be understood by producing the same disease lesions in animals and studying the various stages in their evolution.

To my mind, the most convincing evidence as to the value of experimentation in the study of disease is illustrated in the case of syphilis.

During a short period of seven years from 1903 to 1910, the cause of the disease has been established. A specific reaction for its detection has been discovered by Wassermann; its successful transmission to animals has been accomplished; and a therapeutic agent of considerable value has been advanced for its treatment.

Prior to the time of the experimental method of studying disease, most cases of infections of the kidneys were supposed to take place by ascension along the ureters, but recently it has been shown that it takes place in the majority of instances through the circulation. The toxic effects of the bile upon the various tissues in case of ruptured gall-bladder has been carefully studied by injecting into the peritoneum of a rabbit.

Most advances in obstetrics are due to vivisection. Our ability to recognize the bacterial origin of puerperal infection has enabled us to overcome its former terrible mortality. Before the discovery of Lister, puerperal fever ravaged the lying-in hospitals throughout the world, and each year caused the untimely death of thousands of women in the early years of their lives. The application of antiseptic technic rendered many operative procedures safe which were formerly murdered.

The ability to recognize the bacterial nature of certain infectious diseases of the newborn, such as tetanus and umbilical infection made it possible to save each year thousands of infants, which were formerly lost.

The laboratory investigations of Loeb, Morgan, Wilson, Stockard, and many others have led to the most astounding results concerning the production of fatal deformities. These research workers have shown beyond peradventure that practically all deformities with which we meet can be produced at will

by subjecting the early ovum to various procedures. In this way it is possible to produce spina bifida, cyclops, double-headed monsters or double set of extremities as well as those lacking extremities or having accessories merely by changing the experimental condition. It has been frequently demonstrated that fetal deformities are the result of some interference with the normal growth of the ovum in the days immediately following conception.

Thus have our ideas of teratology been revolutionized. The birth of children afflicted with congenital deformities are no longer attributed to the anger of the Gods, of witchcraft or to some malign influence to which the pregnant woman had been subjected.

Our knowledge of fever, one of the most frequent as well as the most permanent symptoms of disease, the causes which lead to it, the consequences which follow it, and the methods of treatment, has been derived from study of fever produced experimentally in animals; also, our knowledge of the disturbance of the circulation which arises in consequence of diseases of the heart and blood-vessels and which has led to better methods of treatment.

The hospital records show many cases when the lives of many patients have been saved by methods of investigation which could only be carried out in the laboratory and in which animal experimentation had been utilized.

We know what has been done for small-pox, diphtheria, puerperal fever, meningitis, yellow fever, malaria, cholera, and plague. The scourges of hospitals and camps have been conquered by the genius of Pasteur and the penetrating mind of Lister. Many of Pasteur's experiments were performed upon living animals. His germ theory of disease practically applied by Lister has transformed surgery and obstetrics. What thousands revealed through animal experimentation will have died from wound infection. The truths protect generation after generation, so long as knowledge shall endure.

While much has been accomplished in abdominal surgery through animal experimentation, still many problems are pressing for solution. How may we direct the blood around the liver in case of obstruction to the portal circulation? Is a direct communication between the portal vein and inferior vena cava a feasible operation? The performance of such an operation upon human beings would be no more regardless of human life than to forbid the demonstration of its feasibility upon the lower animals. How much of the digestive tract can be removed from a mammal without permanent and hopeless impairment of the digestive function? What

and how much may be done to the urinary tract in the extirpation of disease?

Experiments upon the brain and spinal cord of animals have enabled the surgeon of to-day to recognize and locate injuries and diseases of those organs whereby they can unhesitatingly and unerringly apply his remedy to the part affected. Without such knowledge surgeons must for years blindly inflict upon suffering humanity operations unscientific in conception and uncertain in effect. Just as they did in the operation for control of cerebral hemorrhage before the experiments upon monkeys enabled them to tell just when the bleeding is taking place and just how it can be stopped.

The surgery of the chest has been elucidated and a technic perfected for all operations upon the heart, lungs, oesophagus, and cardiac end of the stomach. The feasibility of removing a portion of diseased lung, how much lung may be sacrificed without causing the death of a dog in order, for example, that we may remove the focus of a tubercular lung from a human being. The possibility of exposing the bronchial tubes for the purpose of recovering foreign bodies after failure of the ordinary methods through the mouth and trachea. The possibility of operating upon the heart in stab and gun-shot wounds and in disease. The extent to which we can expose the heart for exploration of possible lesions without causing death of the patient from exploration. The possibility of operating upon the thoracic portion of the oesophagus through the back. The extent to which thoracic operation may be carried without too great danger. The possibility of repairing damaged arteries and veins.

All surgeons should practice the great operations of abdominal, thoracic, brain, and spinal surgery upon animals before trying them upon human beings. While operations upon cadaver are of some value, yet no idea can be obtained as to the successful or unsuccessful performance of the operation. The step most essential to the success of the operation may have been omitted or it may have been badly executed. The operations upon internal organs, now possible, necessitate for safe performance, an exact knowledge of how these vital organs behave under different conditions of trauma, and this knowledge can be properly gained by testing various operative measures upon animals before trying them upon human beings.

An exact knowledge of pathology is impossible without vivisection.

The student must see things and not simply told about them. He must see, not only what has taken place, but what is taking place. The changes in the circulation which make up the phenomena of inflammation can be best

understood by a study of the circulating blood in the web of the frog's foot.

The technic of the transplantation of organs has been perfected through animal experimentation, so that to-day the kidneys, ureters, and blood-vessels may be transplanted without vascular or urethral complications, the animal remaining in good health after the operation. Thus, from a surgical standpoint, the problem of the graft of organs has been solved.

Time forbids anything but the briefest mention of many inventions of medical and surgical practice that owe a direct debt to experiments upon animals, such as artificial respiration, the transfusion of saline fluids, the hypodermic administration of drugs, the use of oxygen for inhalation, the torsion of arteries, the grafting of skin, the transplantation of bone, absorbable ligature, the rational employment of blood-letting.

The student of to-day and the physician of to-morrow, who receives his training in biological laboratories, is trained to see, hear, and feel the throb of the internal machinery of life in such laboratories can not help possessing greater knowledge and approach his patients with keener sympathies than one who has not enjoyed such advantages. Such training makes it possible for the young man to acquire the knowledge and experience so necessary for treating his patients successfully, and his sense of responsibility for human life. His feeling of sympathy for all living things have been made keener rather than duller as the anti-vivisection would have you believe.

I am satisfied that Biology refines what is most human in man. These discoveries have not only diminished the immediate danger of disease, as for example, but has so improved our hygiene and sanitary knowledge that whole nations and continents are freer from epidemics and scourges.

A Tuberculosis Directory—Containing a list of institutions, associations and other agencies dealing with Tuberculosis in the United States and Canada. Compiled by the National Association for the study and prevention of Tuberculosis, by Philip P. Jacobs, Ph. D., Assistant Secretary, 105 East Twenty-second Street, New York.

This is the third work of its kind that has ever been published and is an authoritative list of anti-tuberculosis agencies in the United States and Canada. It gives a most complete survey of this great field of social work. The book is furnished to the public at the lowest cost 50 cents postpaid. No attempt being made to obtain a profit from the sales.

SANITATION IN SCHOOLS.*

By BRADFORD WARREN, Crab Orchard.

Having been assigned the subject of "Sanitation in Schools," I shall mention a few of the unsanitary habits and conditions now existing. A correction of which would establish conditions more favorable to the health of all concerned. I shall mention conditions as I see them now from a physician's view; and have seen them in the past from the teachers'.

To my mind the evil of first consideration in establishing conditions unfavorable to good health in school children is that of uncleanness, particularly the unwashed hands and faces of the pupils from the time they arise in the morning, all through the day, until late in the evening when preparing for the evening meal. Possibly not until they arise the next morning. With this condition existing, there is a period of twelve hours and possibly twenty-four for the germs from hands and books of many of the boys and girls and from different homes to be mixed, and find lodgment in the system, causing some constitutional disease—probably typhoid, meningitis, diarrhea, tuberculosis, etc., or more probably one of the diseases caused by intestinal parasites. Or the germ may find lodgment in the mucous or skin surfaces, the result of which may be an epidemic of conjunctivitis, or it may be scabies, to cause annoyance and mortification wherever found.

Erysipelas, ring-worm, and many other diseases may be spread by such uncleanness. This habit and condition can easily be corrected by having a few wash basins at each school and have each family furnish its own soap and towels. The teacher should see that they are properly used.

An evil of no mean importance in spreading disease is the manner in caring for the child's dinner. Usually his lunch basket sets on the floor of the school room from eight o'clock until noon. While there it is visited and contaminated by flies, ants, bugs and possibly many other disease carriers. When the child eats his dinner he is generally generous enough to exchange both lunch and disease germs with his friend. The possible result is a spread of typhoid, tuberculosis, pneumonia, meningitis and other contagious diseases. The child who must take his lunch to school because of distance from home, should have a clean substantial lunch and it be placed in a sanitary provision box at school until he has washed his hands and is ready to eat it. Pupils should be taught the danger in exchanging food—particularly biting from the same apple, eating from the same fork or spoon, etc.

In close connection with this evil is that of

*Read before the Pulaski County Medical Society.

all pupils using the same drinking cup. Only recently have I treated several cases of stomatitis in one school district. Upon investigation I found the school supplied with two drinking cups—one within the house and one at the well. Individual drinking cups will stop this source of disease.

Another evil of great importance is the habit of pupils expectorating upon the floor. I have never seen the habit absolutely controlled, especially during recess hours, when the transgressor may not be seen. This one transgressor may be the cause of several late cases of tuberculosis. I shall not mention other diseases that may be spread in the same way, consumption being far in the lead. Proper education will soon correct this evil.

Another evil, the correction of which is far from receiving a due consideration, is the use of the broom. Mr. Webster, in his famous "Blue-Backed" spelling book, said (and as bacteriology was then unknown, I take it that he said it advisedly) that "The new broom sweeps clean." That sentence is partly true in another sense than the one usually attributed to it. There has been many a loving child swept from the condition of health to one of disease, yes, from health to the grave, by no other means than the broom in the hands of a well-meaning teacher. In the country schools many of the teachers do their own sweeping and at a time when all pupils may be present, even perhaps at time of lunch. Some boys and girls are so uneducated or so unthoughtful as to use straws from the broom as toothpicks. This is a nasty filthy habit and may be the beginning of serious and fatal disease. To correct such evils the broom must be completely destroyed. The floor-mop must take its place.

The slate and sponge are excellent culture media for the growth of bacteria. The tablet is far the more cleanly.

The water supply for the home has been publicly discussed, and what was said from that stand-point is especially applicable to the school.

Other topics such as location, drainage, lighting, heating, ventilation, etc., I shall give only passing mention and leave for others possibly for some teachers to discuss. The disinfection of all out-buildings must be complete if we prevent disease.

School rooms fumigated. They contain millions of bacteria, varying, members of flies and other disease carriers, all of which are destroyed by fumigation. The teacher can easily fumigate by leaving a few pounds of burning sulphur in the tightly closed room over night. The door and windows can be opened early next morning for ventilation.

I can see only one general solution to this proposition of sanitation in schools. When

it is carried out successfully, we shall have more satisfactory conditions in the homes also for the prevention of disease. Then will the people begin to realize the importance of preventive medicine.

The solution of this proposition is the establishment of a health department in our schools, which is under the supervision of a competent County Board of Health or Health Officer. Under the supervision of this organization we should have physicians visit schools regularly for inspection and deliver lectures and instructions and make demonstrations of the cause and prevention of disease. In this work the field is sufficiently large to justify weekly or bi-weekly professional visits from the physician. I do not mean to say that the County Health Officer or any physician under his supervision should do this work without remuneration. The health officer should be able to devote his entire time to this work.

When we begin to secure sanitation in schools, among the boys and girls of to-day who are the men and women of to-morrow, then shall we begin to see the results of our efforts at preventing disease.

Parents, let me urge you to unite your efforts with us and use all your influence to establish, in your schools, conditions which will be favorable to the health of your children. Get yourselves together and get out of that "cranky" idea that "what was good enough for you is good enough for your child." Some parents still hold that idea, and while the physicians are doing their utmost to fill the world with those of sound body and mind, these same parents are doing their utmost to fill the world with invalids, fools and criminals, through their gross ignorance. Therefore a conflict is on between such parents and physicians. Let us follow to its close and hear for the physicians "Well done thou good and faithful servant, enter ye into the joys of the victors," and for such parents, "I wot that ye did it through ignorance as did also your parents." If you heed not duty's stern demand you will at the end of your career, hear from the Great Physician, "In as much as ye did it not to one of these, my little ones, ye did it not to me."

Massage of the Nerves.—Joffe relates experimental research which demonstrated a markedly injurious action on nerve tissue from pressure such as is applied in the modern "pressure massage" treatment of neuralgia. Fifty-two experiments showed that the benefit in neuralgia is due to blocking of certain of the nerve fibres from degenerative processes. The centrifugal fibers seemed to suffer more than the centripetal.

FIVE MONTHS' EXPERIENCE IN A TUBERCULOSIS SANATORIUM.*

By THOS. S. TALBOTT, Bardstown.

At the request of your secretary I submit to you this paper on the above named subject hoping that it will prove not altogether uninteresting. I will ask you to overlook any deficiency that may come to your notice on the plea of inexperience on my part in this line of work.

My case dates back to about the first of April of this year, 1911. I was attending medical college at the time in Chicago, spending a major part of the day in the class-room, or in my room at the lodging house. Take such an environment as that in which I was living at the time—six to eight hours in a medical school class-room, the balance of the day and night in a stuffy lodging house, with little or no exercise, and with my lungs laden with tobacco smoke the greater part of the time—and you have a most excellent display of predisposing causes of the disease I contracted. I don't think it would be at all difficult to find the primary cause—abundance of them in fact—floating around at all times in the air of that city.

I suffered an attack of la grippe about this time, April 1st, which kept me in confinement for about a week. Seemingly to have recovered from this I resumed by studies. My infection with tuberculosis undoubtedly followed this illness. I remember having a slight cough, some expectoration, that my appetite was rather poor, and that I found it a difficult task to keep up in my studies. Besides these symptoms I had at intervals of two weeks three hemorrhages and I think several night sweats. I remember one very severe one. I continued in my class room, however, for about six weeks and managed to do the work required of me. During the latter part of April and the first week of May, I had to prepare for final examinations, and it was the work of these that caused my downfall. I managed to finish about half of them when I became so weak that I realized that it would be impossible to continue them, at the same time the thought struck me that I might have something more serious the matter with me than a "bad cold." After considering the matter and recalling the symptoms I had presented the past month I came to the conclusion, very reluctantly of course, that I was a consumptive. It doesn't speak very well, I must admit, for my three years of knowledge acquired in medical schools that I failed to notice these things sooner. I haven't any excuse to offer except that I think it is more difficult to diagnose your own case than that

of another, especially if it happens to be, as it was with me, your first case.

I gave up my studies after making this remarkable discovery and came home about the middle of May. I remained at home for a week growing steadily, and I might say, rapidly worse. During that time I had no less than five hemorrhages and a severe night sweat every night. I made no pretense, however of staying in bed. I figured that I had only a short time to live, exist is a better word, and I decided to do my final existing standing up, if possible. I really did not think I would last over a month or six weeks. There is no doubt in my mind now that had I been left to work out my salvation in the way that I had started about it that week, I wouldn't have missed my guess by far. Of course I did a great deal of worrying during these days, a very great asset to the lungs in their work, let me state.

It was on the advice of my family physician that I came to the conclusion to enter a sanatorium. It was a question then whether to go out West or enter one nearer home. I consulted others who had tried both climates and it seemed to be their opinion that I could do just as well in Kentucky as any other place. They pointed out the fact that should I go West and eventually recover, it would be an impossibility for me ever to return to this climate and live. Of course, in considering the matter the expense of a stay out West was an argument against it. I finally came to the conclusion to enter Hazelwood Sanatorium, near Louisville. This I did on the 23rd of May. I don't suppose that a description of the place is necessary to most of you who are no doubt familiar with it.

It is situated on one of the many hills in the suburbs south of Louisville. The situation to my mind is an ideal one; not too far from the city to offer any of the inconveniences of the country; nor too near for the one disadvantage of a large city, impure air. There are four shacks or cottages for the accommodation of patients, and one large main building. The cottages are scattered about the grounds, none of which are any great distance from the main building. The arrangement of the cottage is simple. In a word it consists of a porch surrounding a small dressing room. Each shack will accommodate from eight to ten patients. Besides these there are several portable houses and a few tents. The institution could probably take care of fifty patients. On entering a patient is subjected to a thorough chest examination by at least two doctors, a chart being made of his condition and filed away to be compared with future charts. Examinations are made of this kind once a month. Examinations of sputum and urine are made once a month, and records kept. A

*Read before the Nelson County Medical Society.

record is also kept of weight taken every week; of pulse, temperature and respiration taken three times a day.

I can't state positively to what extent my lungs were involved when I first entered, but I am convinced that rales could be heard in almost any part of my right lung and that my left was only slightly involved. This information I gathered from remarks made by the physicians during the process of examination. I was considered by no means an incipient case.

A patient is required to spend at least the first six days of his stay in bed. If he is running no temperature he is allowed to get up at the expiration of this time. If he has temperature he remains there until it sees fit to decline, and he has gone six days normal. Normal is considered under 99. If after he becomes an up patient he should at any time register 99.6 or over he must go back to bed through the same process, that is running six normal days.

I had the pleasure of remaining under the covers for five, of what undoubtedly were the longest weeks of my life. I had at first temperature of between 100 and 101, but after a few days' rest this came down to a little above 99. There it remained for four weeks when it suddenly came down to normal. Much to my delight I became one of the elect—an up patient, and was never again bothered with that ever-bothering thing, temperature. During the weeks that I was in bed I received injections twice a week of streptococci vaccine. Whether this had any effect in reducing my temperature or not I can't say. I am rather inclined to believe that it did. I also received, while, there injections once a week of tuberculin. This is given to every patient once or twice a week unless contraindicated. It is not given where there is a very rapid heart action, nor to those patients who have a great tendency to hemorrhage. The dose is gradually increased, depending upon its action on the heart.

The liberties that a so-called up patient enjoys consist in being allowed to go to the main building for meals, a walk twice a day about the grounds, the distance governed by the patient's condition, and an hour spent in the evening in some mild form of recreation. Exercise other than walking is not allowed. Up patients are provided with recliners and are supposed to occupy them the best part of the day. The hours between one and three P. M., must be spent in bed at absolute rest. As a rule a patient is allowed to eat whatever his appetite craves, provided he can get it. In a few cases patients have to be put on diet, but as a rule the patients have the average appetite of any ordinary healthy human being. Besides the three meals a diet of an egg, raw,

and a glass of milk is given in the morning and afternoon.

I remained up for about six weeks enjoying these privileges. About the middle of the summer I had the misfortune to have another hemorrhage, although it was a very slight one, it put me back in bed for several weeks. I think it resulted from excessive exercise in throwing stones at canary birds or some such recklessness on my part.

A few words with regard to their methods of treating hemorrhage. The first thing given is a dose of aconite in some form; this, I suppose, for the purpose of lowering the blood pressure; one-twelfth heroin or one-fourth codein is given to control any cough, also acting as a sedative. The patient is to remain absolutely quiet and refrain from any coughing as much as possible. An ice bag is placed on the chest to remain there for from twenty-four to forty-eight hours. He is put on liquid diet for a couple of days at least, and he is requested to remain flat of his back until several days have elapsed after all traces of blood have disappeared from the sputum. He is then allowed to sit up a little and by degrees get back to the usual life.

I remained in bed for about three weeks. I soon overcame any setback I had experienced as a result of this hemorrhage and was feeling as well as usual in a few days. I continued to improve in every way up to the end of my stay at the institution two months later. Aside from this one mishap I think that I can say that my stay at the sanatorium was one of steady improvement. I regained my lost weight, my appetite is normal now. I had none at all when I went there. I have little or no cough and my expectoration is almost a minus quantity. I haven't had a tenth of a degree of temperature in the past five months. In this condition I returned home about five weeks ago. Since coming here I have continued the life that I led at the sanatorium and I know that I am still improving.

This is a brief history of my case up to the present time. It is not a story of any wonderful cure, the day of miracles has passed, but merely a record of an average case to be found at the institution.

APPENDIX BY H. D. RODMAN, BARDSTOWN.

This patient is 22 years old; six feet three inches high, and is now, January 8th, as heavy as he ever was. I have had this case under close observation since May 15th, last, when he first called on me, and when I advised him to go to a sanatorium. From a sanitary view his home surroundings were good; there never was tuberculosis in the family, and he had no association with tuberculosis patients unless it was during his school life of four or five years in Chicago, where, in my judgment,

he contracted the disease. It is more the result of the sanatorium treatment that I wish to speak. He went to the institution in a bad condition and growing constantly worse, as he tells us in his paper he had given up to die, and I believe would now be dead if he had been left alone, but instead of being under the sod, he is now a hale, hearty, stout young man, ready to pursue his medical studies.

Gentlemen of the profession it is our duty to advise, and urge these patients to go to a sanatorium and be cured. If the patient can raise only \$50.00, tell him to spend all of it at a sanatorium in learning how to live. I know of six who went from our county to this same sanatorium, three came home cured, one very much benefited, one who was moribund when she went there died, and one is there now improving. The great number of deaths from tuberculosis is appalling. Read the reports of vital statistics in Nelson county for the first eleven months of 1911; there were reported 246 deaths, 39, practically 1-6 were from tuberculosis. If these cases could have been cured (as has been the case in this same county) how gratifying it would be. Doctors don't let your tuberculosis patients sit down at home and die, when they can surely be cured. I, for one will welcome the day when the State establishes and maintains a tuberculosis sanatorium.

HOW TO PREVENT TUBERCULOSIS.*

By J. H. HESTER, Munfordsville.

Man has ever sought to discover and evade those dangers that weaken and destroy his efficiency. Since Adam was expelled from the garden of Eden and trouble first began, mankind has been threatened with two classes of danger. One is rampant; and the other, insidious. Tuberculosis belongs to the latter class.

Those dangers that we may designate as rampant, such as war, rapine, or social disorder are overt in their nature and thus the layman as well as the scientist may trace their course and discover means of preventing them: But not so with insidious and occult dangers. The occult and insidious nature of tuberculosis in its incipency render its treatment and prevention possible only by the most careful methods.

In tracing the history of tuberculosis it is interesting to know that Hippocrates, who lived 400 B. C., and who may truly be called the "Father of Scientific Medicine," spoke of consumption as a disease which is "the most difficult to treat, and which proves fatal to the greatest number of people." Isocrates also a Greek physician, who lived about the fifth century before Christ, was the first to

write of tuberculosis as a disease transmissible through contagion. In the middle ages the celebrated physician, Montano, declared consumption to be one of the most dangerously contagious and most easily contracted of diseases. In Naples a royal decree, dated September 20, 1782, ordered the isolation of consumptives and the disinfection of their apartments, personal effects, furniture, books, etc., by means of vinegar, brandy, or lemon juice, seawater or fumigation. Any violation of this law was punishable by fine and imprisonment. But the medical men of antiquity made the same mistake that the medical profession is making to-day, that is in appealing to the adult instead of the child.

To my thinking the best means of preventing tuberculosis is to inculcate the preventative methods into the receptive mind of the child. And the only effective way to reach the child is through the public schools of our country. J. Dorman Steel put his treatise on the evil effects of alcohol in the common school physiology twenty years ago, and the boys who read them are voters to-day, hence the world goes dry.

The best method of getting any effective means for the prevention of tuberculosis would be in the form of a book entitled "How Preserve Our Health" or some such title. This book should be a treatise, in language intelligible to the mind of a child, on tuberculosis, typhoid fever, diphtheria and other infectious diseases; and in addition to the above there should be something said on the subject of the eye, ear, nose, and throat, and how care for the teeth, as the proper care of these organs is an important factor in the prevention of tuberculosis. These subjects, as you all very well know, are very important ones and are very much neglected in the rural districts of our State.

I would suggest that the President of the State Medical Society appoint a committee to arrange a work on this subject, and I would also suggest that this committee be composed of two physicians, one dentist and two literary educators. I would further suggest that after this book has been prepared that it be presented the State legislature and ask them to pass a bill adding this book to the common school curriculum of our grand old State. In the meantime we physicians should see our senators and representatives and impress on them the necessity of a work of this kind in our public schools.

The question, as to the best method of presenting this to the child, should be solved by the committee who arranges the book. However I will give you a supplement to my paper that will bring out some of the most important points that should be taught in our public schools to the little folks, as the first

*Read before the Muldraugh Hill Medical Society.

impression made on the child's mind is the most lasting one.

I think there should be one or more physicians of each and every county in Kentucky give a lecture to the teachers of our public schools at the teachers' institute during this incoming year, on tuberculosis, telling them in simplified way how to prevent the dreadful disease, giving them at the same time a copy of the supplement which I will read when I finish my paper. I was asked some over a year ago to address the teachers of Hart county on the subject, which I did, and gave them a copy of this supplement to tack up in the school room where the pupils could read it for themselves; and since that time I have been consulted by a large number of the teachers and pupils of my county as to the prevention and cure of tuberculosis. I know the teachers of Hart county are anxious to assist us in wiping this dreadful disease off the face of the earth.

But after all the masses of the people must be educated before we can conquer tuberculosis; and while this "a consumption devoutly to be wished" by all medical men; we can in the language of Sir Thomas Moremanly "wish for rather than hope to see". But each local physician can in his allotted territory go about the world doing good; and as best he can bind up the bleeding lungs of those who are afflicted, and warn those who are not, against the insidious approach of "The Great White Plague;" ever remembering that in this, medical science has for its auxiliary God's free air and sunshine.

SUPPLEMENT.

ALPHABET FOR SCHOOL CHILDREN IN THE PREVENTION OF TUBERCULOSIS.

- A is for Anybody who can help to prevent consumption, a child just as well as a grown person.
- B is for Breathing which you should learn to do deeply. Take deep breaths in fresh air often.
- C is for Conghing which you should never do in anyone's face, nor should you sneeze in anyone's face. Turn away your head and hold your hand in front of your mouth.
- D is for Don't. Don't swap apple cores, candy, chewing gum, whistles or half eaten food or anything you put in your mouth.
- E is for Eating not fruit that has not been washed or peeled, or anything that is not clean.
- F is for Fingers which should not be put in your mouth nor wet to turn the leaves of your books.
- G is for Giving good examples to your fellow pupils and playmates by being always neat and clean, just as much so at home as at school.
- H is for Handkerchief which should be used only to wipe your nose, and not your slate, desk or shoes.
- I is for Illness of other kinds besides consumption, which follow these rules will help prevent, such as colds, grippe and pneumonia.
- J is for Joints where children have tuberculosis more often than in their lungs.
- K is for Keeping your finger-nails clean. A scratch from a dirty finger nail may make a bad sore.
- L is for Learning to love fresh air, and not for learning to smoke.
- M is for Mouth which is meant to put food and drink into, and not for pins or money or anything not good to eat.
- N is for Nose which you should never pick nor wipe on your hand or sleeve.
- O is for Outdoors where you should play just as much as you can. Always play out doors unless the weather is too stormy.
- P is for Pencils which you should not wet in your mouth to make them write blacker.
- Q is for Questions which you should ask the teacher if you don't understand all these rules.
- R is for Roughness in play by which you may hurt yourself or your comrades. If you have cut yourself, have been hurt by others, or feel sick, don't fear to tell the teacher.
- S is for Spitting which should never be done except in a spittoon, or a piece of cloth or handkerchief used for that purpose alone. Never spit on your slate, on the floor, or the sidewalk.
- T is for Teeth which you should clean with tooth brush and water after each meal, or when you get up in the morning and before you go to bed at night.
- U is for Unkind which you should never be to a consumptive.
- V is for Vessels like drinking cups and glasses which should not be used by one child after another without being washed in clean water.
- W is for Washing your hands with soap and water before each meal.
- X is for X-rays which sometimes helps to discover consumption or other forms of tuberculosis.
- Y is for You who should never kiss anybody on the mouth, nor allow them to do so to you.
- Z is for Zeal in carrying out these rules.

NARCODOULOSIS.*

By J. B. BRASSEUR, Norway, Mich.

Under the neologism of this term the purpose is here to unfold a few points in the natural history of those diseases improperly called drug-habits, inasmuch as they are of importance in relation to a method of treatment which is undoubtedly new, both from the standpoint of the therapeutic agents employed, and from that of their action resulting in a prompt, painless, radical and generally permanent cure.

When one considers the widespread prevalence and the steady increase of narcotomic affections, the calamities and sufferings which they inflict upon unfortunate victims, and the dangers for society involved in the dissemination of this plague, the labor of such a study may not appear useless, and it should be rendered of evident benefit, were it shown that the many obscurities reigning in the subject have been responsible for the sad verdict of utter incurability heretofore rendered by medical science.

Narcodoulousis is established in human being, and probably in all higher vertebrates, by two classes of products, and by these two classes only, viz: A. Opium and its narcotic alkaloids, morphine, morphine sulphate, hydrochloride, acetate, codein and its salts, heroin, dionine, etc. B.. Alcoholic beverages, i. e. the solutions in various vehicles of ethylic alcohol.

Cocaine, chloral hydrate, ether, chloroform, caffeine, camphor, acetanilid, bromides, antipyrine, tobacco, if really formative of habits, are not so in the sense attributed to that word for the members of the two former classes. When speaking of a cocaine habit, therefore, we must remember that the term is taken in a different acceptation, at once from the standpoint of symptomatology, prognosis and treatment; and no end of mischief has been produced through the agency of the lay literature on the subject.

We, therefore, here affirm iteratively, and we think, that in the interest of suffering humanity, it cannot be affirmed too emphatically, that opiates and ethylic alcohol mixtures only, are donlopoetic products; or, to speak more plainly, these and these only are capable of forming the so-called drug-habits. Those are the only pharmaceutical species nowadays known, the repeated use of which, at intervals of varying lengths super-induce a certain abnormal condition of the organism, and of its vital functions, such as require absolutely the presence of the drugs in the system, in order to get it to perform the said functions, and

thereby renders the regular user of those products more really a slave to their chemical affinities, than any mute in Yildiz Kiosk has ever been to the bidding of the Sultans.

Narcodoulousis is not a habit but a disease, one of the most horrible afflictions to which human flesh is heir; and the fate of the miserable victims is so pitiful, as to command not the contempt and disgust of mankind, but compassion, solicitude and well-ordered care.

ETIOLOGY.

To prove that the usual attitude of the laity towards morphinists and alcoholists is uncharitable and unjust because based upon antiquated and wrong notions, one needs but to mention the cases of infants who have become confirmed morphinists through the milk of their mothers. One of the most awful examples to my knowledge, is that of a woman who lost three babes in succession a few days after weaning, through convulsions of an origin too obscure to be detected by the attending physician. A fourth baby was saved from the same fate by the timely administration of a hypodermic injection of morphine, following the discovery of the mother's addiction to the drug, and the inference consequent thereon. The disease is met from infancy to extreme old age, the ill-fated infant just referred to being about twenty-three (23) months old; while a recent patient was eightyone (81) years old, having taken his first dose of morphine when Fort Sumter was bombarded, April 7, 1861, and having used it continually since in daily doses varying from 16 to 30 grains. Age, therefore, does not, directly at least, play any part in the etiology.

What are the conditions antecedent to the formation of narcodoulousis? These cases are rare in which in the beginning opiates are taken deliberately with no other end in view, but dissipation of a new and alluring form, and these cases constitute about three per cent. of the grand total. Such unfortunate wretches belong either to the idle and wealthy classes, or to the fair agents of what Anglo-Saxon prudery knows under the euphemistic name of the social evil. In European countries the latter class counts the greatest number of morphinists, not to say the quasi-totality. It may be of some interest to point here to the immense difference in the number of victims of the disease on both sides of the Atlantic, respectively.

While a conservative estimate places the number of opiate users on the North American Continent as five millions; while the patients are found in every district, and in communities of every size from the farming hamlet to the state or national metropolis; on the other hand, in European countries morphinists are met only in great cities, in the classes above referred to, and exclusively

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there. This contrast may suggest reflections of great import as to the social and economic conditions underlying the superficial etiologic circumstances; and have a very significant meaning in regard to the prophylaxy. In opposition to idleness and wealth, as causal elements, must be placed overwork, and the strenuous life, such as the majority of physicians undergo. While our Brotherhood furnishes directly a large quota of the legion of narcodoulousis, it is unfortunately true that physicians are also responsible indirectly for the swelling of the sum total of these unfortunates. Owing either to negligence, irreflection or misunderstanding, opiates are administered recklessly without regard to neurotic propensities, anamnestic data, heredity, without real necessity, often with too much frequency, or in too large therapeutic doses. The administration during 6 to 8 consecutive days is sufficient to establish narcodoulousis. Be it well remembered that the smaller doses will establish the pathologic condition as certainly, as deeply and as radically as the large ones. It does not matter whether administered per os or per cutem, the affection is bound to result, from the use of the drug at intervals of regular frequency whether long or short, and patients taking opiates by the mouth are as inveterately narcodoulousists as those using them by what we call the sub-way. The patent medicines containing either opiates or alcohol have been held responsible for the corresponding diseases, also, and it is an observation only too correct that they have enslaved many children and adolescents. For this class of youth there lies also an imminent peril in the moral contagion of certain forms of literature, and there are novels and the kindred productions of the graphomania of our times which have originated mischief worse than any brand of patented or proprietary mixtures. On the same order must be placed the slumming parties of tourists and idlers through dusky quarters of great cities. Many a patient dates his enslavement from the visit paid under such circumstances, to opium smoking joints. Finally, the inordinate consumption of intoxicating beverages has often led people and more frequently professional persons to the opiates. The professional man called suddenly to discharge some responsible duty while partially intoxicated, who realizes his incapacity in that condition, will be tempted to shorten, or annihilate the period of disability consequent on his excesses, by having recourse to the powerful sedation of opiates, and, after he has experienced a single time the effect, the hour for his enslavement has come, and he will awake bound hand and foot to a fate more horrible than was once the lot of Nubian heiducks in the service of Turk-

ish pashas, or of the Congolese emmeshed in the razzias of Tippu-Tip, the great slave raider of Zannibar.

PATHOGENY.

We forbear rehearsing whatever meagre data are found in all treatises of materia medica and therapeutics, as well as in those of special pathology, or rather to use the American term, of practice of medicine, just as though practice could be learned in books. Confining our attention to points of practical import, and principally to those interested in the curative treatment, we would fain elucidate at the start, the problem of what mysterious action creates the craving for opiates or for alcoholics,—a craving so characteristic of both diseases.

This essay is the result of the compared experiences and researches of several observers, physicians and chemists protracted during a period of twenty (20) years, and covering thousands of cases of all possible types and varieties, and the result is embodied in the following remarks:

First, as to opiates, while pathologists will be interested in experimental researches concerning the series of chemical transformations which the molecules of Opium and its alkaloids undergo during their passage through living organisms; concerning the action of those toxic principles upon the tissues and various organs; and concerning the concomitant modifications of the functions; the clinician has other ends in view, and to reach them, different methods must needs be employed. The observation of individuals of both sexes at all ages, in the most diverse circumstances and in all the infinitely variable shapes of intoxication, has led to this fundamental conclusion. The gist of the whole mysterious action of opiates lies not only in the breaking up of the molecules of opiates, but in the drying up of all glandular secretions which result in the retention of the products of oxidation, contingent upon metabolism in general. We assume it is a generally admitted theory now, that the part played by the hepatic secretion in the chemical transmutations of alimentary substances has a good deal less of importance than was attributed to it by physiologists in the generations preceding our own.

The liver is rather an instrument of elimination than one of assimilation, and its principal function consists in the destruction of the multiple principles toxic or infectious formed by the oxidizing processes of digestion and the ultimate bacterial transformation of residues in the intestinal tract prior to their expulsion.

In opium diseases, the secretion of the hepatic gland is either arrested or reduced to a minimum. The same happens for the gland-

ular secretions of the intestines and annexed organs, pancreas, adrenals, spleen; hence, the consequence that the products of decomposition of ileo-colic digestion, instead of being reduced to the simplest expression and thereafter being expelled, are delayed in their progress through the alimentary tract, and in the incomplete condition of disintegration are re-absorbed under the form of ptomaines, leucamines, bacterial toxins of the most varied sorts, and intermediate products of the molecular disintegration of all albuminoids and proteids. Now, the portal system carries those reabsorbed toxic principles to the liver, which is soon saturated with them. Once this state of toxic saturation is reached, the poisons pass into the general circulation, slowly infiltrating the whole organism, while their main action is felt at first on the cerebro-spinal system.

It is here convenient to distinguish three stages in the series of symptoms consequent upon the habitual use of opiates. Following the administration of even a therapeutic dose, the effect undoubtedly depends upon the action of morphine, *as such* upon the encephalo-rachydian centers.

The second stage is that of re-actions and the symptoms thereof vary a good deal according to idiosyncrasies; it may even be lacking; but where somnolence, torpor, mental dullness and apathy exist, they are due to the paralyzing influence of opiates upon the cortical cells during that stage. It is a curious fact that of the selective affinity of morphine for the centres of the highest orders, those bordering on the very limits between the ideation centers, and the ways of conduction by the pyramidal tracts of the kinetic influx, or the so-called volitions. The importance of this observation as to the influence over the life of opiate users shall be insisted upon later. However, after or without an interval of sleep, there occurs a third stage, that of ptomainization. The action of the reabsorbed toxic substances invading the system is responsible for the indescribable general malaise increasing with the time elapsed since the absorption of the last dose of drug.

First a clammy sweating with chills, great debility, unutterable anger overwhelms the patient. The torture according to most patients observed in this stage defies description, and is only relieved by collapse, paralysis of respiratory centres and death. Having once experienced, even partially, and but in its very initial period, the hellish torments of the third stage; the patient will do anything in his power to avoid any further recurrence, and therefore to attain his end, he will be tempted to have recourse to his drug, even before there is any real danger of recurrence.

Therein lies one explanation of the con-

stant increase in the quantity of opiates taken and of the abridging of the intervals between the doses. A second one will be found in the constantly increasing accumulation of toxic products requiring more frequent dulling of the cortical asthetic centres, in order to prevent the agonizing effects on the system from entering the field of sensation and consciousness. An explanation is here found of the enormous doses taken by some patients and varying from 60 to 120 grains of morphine, and in a recent case amounting to 46 grains of heroine that has a lethal power one-third more effective than morphine. Evidently but a minimum part of the substance introduced into the system is capable of exerting its selective action upon the nervous centers, and when taken per os, can be found again in the excreta, while when taken by the subcutaneous way, it is either stored up in the liver or neutralized in the humors by an adequate antitoxine. The latter point is proved by experiments on animals. Both remarks account also for the remarkable fact of the resistance of the living organisms to such powerful agents, as the opiates have been taken in many cases during several decades without leaving any appreciable noxious sequels, and this is demonstrated by the present condition of persons cured for five years and enjoying perfect health.

It is a matter of regret that the same statement does not hold true for alcoholic beverages. The prompt elimination of the latter and their influence on the glands differentiate their action from that of opiates, as well as their phlogogenic effect upon all the tissues. Here we think a great error was inadvertently made when in order to explain the action on the organism of alcoholic beverages, physiologists and pathologists have been satisfied with the study of alcohol chemically pure. For alcoholic beverages are (or ought to be) solutions in varying proportions of ethylic alcohol in the most infinitely variegated mixtures of essential oils, coloring matters, alcohols, glycerines and superior alcohols, aldols, aldehydes and ketones, both of the fatty and of the closed chain series, and notably a very venenous aldehyde called furfural.

In a clinical study of the action of intoxicating beverages on living organisms, care must evidently be taken to distinguish accurately between the respective effects of alcohol and of the additional products. The radically different symptoms of intoxications from beer, cider, wine of Burgundy or of champagne, and from absinthe, whiskey, and gin, suggest to the clinician a no less fundamental difference between alcohol as such, and the additional products in their effects on organs and functions.

However, in alcoholism, like in morphine, the insufficiency of the hepatic gland is responsible for all the nervous effects, but from a different cause—hepatitis.

Chronic hepatitis, with the alterations of the protoplasm of the hepatic cells it involves, plays here the part of the nervous system in opium diseases over the glandular system with the same final result on the secretions, viz: their retention or suppression.

The craving is not so strong in alcoholists as in morphinists, for the reason that the elimination is more rapid in the former, and the toxins have not the same opportunity of influences on the nervous centres. Here also, there is great necessity for distinguishing between the primary actions of alcohol and additional products, and that of the results of their chemical disintegrations with the toxins resulting from lack of elimination.

SYMPTOMS.

From the foregoing remarks, one can already apprehend the symptoms of alcohol diseases, as well as their rational connection with the pathological lesions and signs of the same above mentioned.

No more in the exposition of the symptoms than in that of pathogeny will it be proper to dwell at length upon a description of semeiology, which would be only the tedious repetition of all that may be found in medical works on the subject.

A little attention to a few cardinal signs and symptoms ought generally to enable the physician who has received some training in the attendance upon patients suffering from alcoholism or morphinism, to recognize them without much hesitation, under whatever shape or variety they may be masquerading amidst the habitual efforts to conceal the stigmata of their disgrace, and such, alas! at this epoch of vaunted enlightenment, those diseases, and principally the former, are still deemed to be by an ignorant world.

A sallow and waxy complexion rendered more evident by the brightness of shining eyes in the orbs of which the pupils are so contracted as to be barely discernible, a shifting glance; a countenance in which something inexpressible betrays embarrassment or apprehension; a gait frequently hesitating; a restlessness which does not allow the sufferer to remain seated for any considerable time; either joviality and hilariousness, or melancholia and mental depression, such are the main characteristics of opium eaters and morphinists. There are exceptional cases in which the facies is congested. The patient often makes persistent but generally ineffectual efforts to act and appear as others around him. All cases are remarkable for the irresponsiveness of pupilar reflexes to the usual excitations, or at least for the slow reaction following irritation of the pupilar reflexes.

But physical symptoms are only a small part of the complex semeiology of morphine. The psychology of these patients has been considered mostly from a literary standpoint by writers of the DeQuincy class, but it holds in reserve a mine of facts as curious and unsuspected, as they are interesting for physicians, moralists and sociologists, as well as for the student of mental science.

Besides the influence of opiates over the cortical psycho-motor centres, which has been already mentioned, perhaps the most tragic effect is that which results from the slow but fatal disintegration of the moral elements constituting the best part of the individuality. The intellectual faculties may be for a long time preserved in their integrity, at least to all appearances. The character is at first modified and in a manner which may be a constant puzzle to those not informed of the diseased state of the subject, and may lead to deplorable misunderstandings. However, the most striking effect of opiates on the psychic entity, and also the origin of the most horrible sufferings, arise from the gradual decay of the moral sense: for sooner or later, the patient will feel weighing upon him the frightful obsession of his enslavement in the clutches of a tyrant more inexorable than any that ever domineered in the Orient. Sooner or later, and with an acuteness proportioned to the keenness of his faculties, the patient is oppressed with the sense of his degradation and the consequent self-contempt is only equalled by the apprehension of being betrayed and exposed to universal abhorrence, and by his utter inability to shake off the incubus bound to affect his total undoing. With the disappearance of that fundamental illusion of free choice and determination upon which practical reason has reared the whole fabric of personal and social morality and law, the relentless Nemesis dogging the steps of Narcodonolists is fast approaching the period of mental decay and moral dissolution ending in the torpid apathy of the embecile or in the insensibility of the criminal degenerate.

A comparative study of the symptoms produced in habitual users by cocaine and by morphine respectively might prove highly interesting as conducive to practical results of no meagre importance. The facies of the cocaine addict when under the influence of that alkaloid is different from that of the morphinist. Besides being somewhat congested and vultuous, there is that of indefinable in the eyes with their dilated pupils as well as in the altered features which strikes at once the experienced observer as pathognomonic. The general demeanor and deportment and the ordinary conduct of cocaine addicts differentiate them also from the morphinists. The

restlessness and polyphrasia, the loquacity or hilariousness of cocaine intoxication distinguishes it from morphinism, though the latter exhibits often, during a certain stage, symptoms of stimulation, but even these differ in a lesser intensity compensated by a longer duration. Thus the well known increased capacity for labor and endurance or hardships can only be prolonged through frequent absorption of the alkaloid. The anesthesia of the pharynx and stomach often abolish the sensations of thirst and hunger, and a complete lack of appetite may cause the victims to pass days without food, thereby adding to the nefarious action of the drug itself, the life-sapping effects of inanition. The most deadly results of the cocaine addiction are not slow to appear in the mental and moral decay, as well as in the bodily degeneration.

The mode of action of cocaine so different from that of morphine, explains why the physical cure of addicts of the former is so much easier than that of the latter.

But while the physical cure of cocaineism is readily accomplished the avoiding of a relapse is a task replete with extreme difficulties. Once the drug taken suppressed and the craving destroyed, the further and most important treatment ought to be continued for months under the supervision of specialists in mental and nervous diseases.

The destructive action exerted by cocaine on the highest cerebral centers from which result the paralysis of the will power and the disintegration of the moral faculties account both for the difficulties of the secondary stage of the treatment, and for the social peril of cocaine addiction. The annals of criminality bear witness to this statement. The morphine addict, on the other hand, exhibits a disposition to enjoy "opium cum" or "sine digitate" and would rather enjoy a peaceful quietude than "take arms against a sea of troubles."

Reflexion over the concise exposition just given will make clear the pathos or the tragic part of the pitiable lot to which cocaineism and morphinism bring ultimately their victims. The consciousness of slow degeneracy and the feeling of degradation imposed by the knowledge of enslavement without hope are sufficient to suggest what tortures undergo the unfortunate wretches addicted either to morphine or to cocaine and to awake in physicians as well as in all unprejudiced persons acquainted with those diseases, a deep commiseration, an earnest and active sympathy.

Thus, of a bright intellect often of broad and extensive culture morphine or cocaine have made in a few years a dull-eyed, slow-witted, unscrupulous and idle reprobate; of a virtuous, modest person a lascivious receptacle of impure imaginations.

TREATMENT.

Any case of narcodonolosis of whatever duration, of whatever intensity, can be cured radically, safely, and, to all practical purposes, painlessly, in a period varying from 3 to 4 days.

Not by any agent heretofore unknown, not through some new method or system of physical, electric, Christian science or chiropractical therapeutic, but simply through the rational use of such pharmaceutical species as answer to the indications supplied to the trained and accurate observer of symptoms and of their pathological meaning.

The solution of the whole mystery is contained in one word: Elimination. To expel the residues of digestion accumulated in the lower portion of the alimentary system must be the first object of the treatment, to accomplish which no more effective agents can be employed than the salines combined with some cholagogue cathartic; one may use a solution of magnesium sulphate and Rochelle salts with cascara sag. fl. extr. This will generally rid the intestines of the feces accumulated in the colorectal tract sometimes in enormous masses, by the persistent constipation symptomatic of most opium cases. But, once the obstinate constipation relieved, the elimination has not begun; the ways have simply been opened for it. The liver, stomach, intestinal glands are still holding in their natural secretions and kept locked up in the humors all the toxic principles resulting from the upsetting of the glandular functions. Consequently with the liberation of the bowel contents, and the possible expulsion of a wonderfully large quantity of residues; with the existence, it may be, of an apparent diarrhoea; we must take heed lest we consider the elimination accomplished; *it is not even begun*. Now is the time for stimulating the glandular secretions by the appropriate agents which the modern materia medica offers to our choice. Preference should be given for the purpose in view, to calomel, elaterium, podophyllin or rhenn. Calomel in doses of from 10 to 40 grains in the twenty-four (24) hours will start the biliary secretion and with it, the expulsion of the toxic materials which can be followed by observing the nature of the stool, and more evidently still in the promptly improving of the patient. Forty-eight (48) hours of this treatment, have generally ameliorated that condition so far as to allow of the usual quantity of opiate being reduced by two-thirds (2-3) without any suspicion arising in the user's mind, from the least malaise. As soon as the process of elimination of the toxins is well under way, and it is known from the alteration of facies and cornea, from the euphoria, as well as from the stools, the time has arrived for the real

cure of narcodonolosis, for cutting the Gordian knot of those bonds which have kept the victim in the miseries of servitude. The object is to suppress the irrepressible craving for the opiate engendered by the depressing and torturing effect of the toxines over the whole system. This object is attained in 36 to 48 hours during which, elimination being carefully kept up by calomel, cathartics and saline, the patient is saved from the almost unbearable torments of the ordeal, by the suspension of consciousness and with it of the sensibility to pain.

The agents at our disposal in the therapeutic armamentarium are numerous, but there seems to exist in *Cannabis indica*, and in hyoscyamus preparations a sort of antidotal property which makes them most worthy of our preference for the intended work. Refracted doses are given every 2 or 3 hours, of sufficient strength, to keep the patient in a state of semi-stupor or half-hallucination. The effect of this treatment is as follows: First dose of *cannabis indica* solution, injected in the evening, generally produces sleep of from 6 to 8 hours, although the last dose of morphine may have been given twelve hours before. As soon as the patient awakes, a second hypodermic of *cannabis* is given, then a third, and fourth, either hourly or every two hours, according to effects, which a little experience soon teaches to appreciate. From 8 to 25 injections may be needed before the full physiological effects of *cannabis indica* be obtained and if elimination meanwhile has been well maintained, the patient, after a period of real refreshing sleep, will awake clear minded and without craving, with the indescribable feeling of happiness resulting from the overwhelming sense of liberation. He is cured.

During the delirious stage, a period of 6 or 12 hours may intervene, in which the hallucinations take a more exciting form, impelling the subject to restless activity of an ataxic nature or there may be jactitation and disordered movements approaching or simulating real convulsions. But, during all this trying period the pulse is usually normal as well as the respiration. Wide dilatation of the pupils and flushing of the face, with general perspiration, announce that the desired effects have been obtained.

It may happen that at some time during the second half of the delirious period of treatment, all at once, the bowels that have heretofore acted regularly, are stopped, and the arrest of elimination with the consequent retention of toxines produces the restlessness, jactitation and spasms alluded to. No stronger confirmation of this theory needs be offered, than the immediate relief of such conditions which follow vomiting of frequent

natural occurrence in these cases, as the effect of the *vis curatiæ naturalis*, and which it may be indicated to provoke. Another proof is found in the possibility of avoiding the period of restlessness by pushing the elimination to its extreme limits. The quantity of regurgitating bile which is frequently expelled by vomiting, will astound the physiologists. It amounts sometimes to 6 or 8 quarts. Once this hyper-secretion of the liver, and all of the glandular system well started, the cure can be considered as very near completion.

Out of this ordeal the patient commonly awakes refreshed, without craving for opiates, without remembrance of his sufferings, but in a condition of weakness similar to that of a convalescent, from typhoid fever; and the treatment henceforth, will be the same.

One caution, however, must be heeded carefully in regard to the condition of the digestive organs. This condition is peculiar to the convalescence of the narcodonolosis, and owing to it neither sweet milk, grease or fatty foods must be given, nor ice water, coffee or acids; unaltered milk only must be given during the whole treatment, and the first week of convalescence, bouillon, beef tea or chicken broths, sweet fruits, toast and eggs (soft boiled). Muscular or articular pains are best treated by massage, and the persistent insomnia by hot baths, or mild hypnotics, such as *passiflora* combined with strontium bromide. Exercise in fresh air, plenty of walking out doors must be insisted upon as soon as the patient leaves the bed, that is, the second day after treatment. Our experience has led us to consider walking and exercise, in fact, outdoor life as the most powerful adjunct of all medication during convalescence, and hence the appropriateness of treating opium cases in so equal and mild a climate as to allow of this procedure during every season of the year.

The treatment of alcoholism is based upon the same principles with the single difference that it is instituted in a milder form.

Both kinds of cases can be cured completely within a period of twenty-one (21) days.

PROGNOSIS AND CONCLUSION.

From our opening remarks in the paragraph relating to the treatment, it is apparent that we consider narcodonolosis as perfectly curable as syphilis or malarial fever, with the following reserves, some of which have been hinted at in treating of the etiology.

A certain class of cases are incurable for the simple reason that they do not wish to be cured. However strange it may sound at first, a little reflection over the circumstances which have led to the establishment of narcodonolosis will explain this apparently nonsensical frame of mind. The neurotics who commenced using opiates deliberately, attracted by the

imagined seductions, heard or read of in romances, of the entrancing dreams induced by these narcotics, those persons will never be cured. The stigma of mental or moral degeneracy will be found in many cases to account for the abnormal desires of sensuality characteristic of these unfortunates. There is hardly a better prospect of relief for the wretches of both sexes, sunk in dissipation and debauchery, who took to the drug in order to find a surcease of pain and grief, to allay momentarily the qualms of remorse, and to seek oblivion in the artificially created torpor or paralysis of a guilty conscience.

All cases accidentally formed can be cured completely within a period of three weeks, convalescence included. In persons leading sedentary lives and also in physicians, active resumption of professional duties should not be thought of for at least three months.

Though our prognosis is favorable, and, indeed, most favorable inasmuch as the cure of individual cases is concerned, we are, however, constrained with deep regret to confess that our convictions as to the outcome of prophylactic measures are far from optimistic.

The diseases of both opium and whiskey shall continue to extend over this fair country of ours, despite the fact that they constitute a plague whose ravages for the individual involve untold sufferings, degradation and misery, and for society a most imminent peril.

Under the circumstances usually antecedent to the formation of narcodoulous, and constituting but the superficial etiology, a disease of such frequency, extension and persistence must be rooted more deeply and recognize its origin in the very vital parts of our social organism, in the most essential parts of our civilizations.

We are proud, too proud, of the progress realized during the past two generations, mostly in the domain of natural science and their applications to art and industries. But, in true morality, personal or social and political, what progress have we made?

The enslavement of the weaker by the stronger, of the inferior by the superior races, of the defeated by the victorious in war, appears, among the many disheartening contingencies of the universal life-struggle, as the one which has stamped most distinctly upon man's forehead the undeniable marks of his brute inheritance.

Let us remember that it was in the second part of the nineteenth century that a concerted action of the great powers was taken for the abolition of the slave trade. Let us overestimate the advance of civilization through the development of altruistic instincts and the humanizing influences of a fast improving science, let us remember that social evolution is a gradual, interrupted and very

slow outgrowth of barbarous tastes, habits and customs.

In the course of this advance one evil has hardly been suppressed but another arises that threatens to block the highways of progress. Thus, our vaunted humane spirit, altruistic feelings, philanthropy and liberalism in moral and political judgments, spring all from the very same sources wherein must be sought the primeval cause of the psychic conditions proper to our age, and in a high degree to this country, and which are the antecedent of the formation and extensivity of morphinism and alcoholism. With the first dawn of sensibility in the chaotic stages of life's phylogenic development, the Nisus of Cosmic evolution has been integrated into that perennial universally present, (*der Wille Zum Leben* of Shopenhauer). Will to live, which permeates every material system and constitutes the life of the Universe. Never before in our times, has it affirmed its existence in individuals; and, as a consequence, life, in the individual has become largely the subservience of mind to the animal instincts of sensuality and to the wild impulses of passion.

Appeals to sensuality under indefinitely varied forms, surround and infiltrate the textures of our existences. To live at any cost, to live and enjoy life's pleasures and, for that purpose, to hide or ignore its ugly sides, pain, diseases, poverty and death, to live in pleasure and enjoy life: Perish all the rest! Hence a loss of equilibrium between the conceptive and the affective faculties of the human mind, and with it the resulting rupture of harmony between the two modes of their activity, that of reason and that of sense. Hence our emotionalism, hyperesthesia, hyperexcitability, our hysterical outbursts, our anisms and the red terrors of anarchy, the spectre of which projects its terrifying shadow over the whole structure of modern civilization.

Besides these general causes of pessimistic views intermixed with all the fabrics of our civilization, there is one of scarcely less import to be found in the attitude of the medical profession towards narcodoulotic diseases and their treatment. The calamities and despair inflicted upon millions of suffering human beings by the ruthlessly cruel verdict of medical writers on the subject, would be a reflection on the profession, were they not somewhat condoned by a provision of our code of ethics recommending as foremost, the duty of ministering to the afflicted hope, consolation, and at least palliative assistance, where no more effective one can be bestowed.

Not only the unfortunate sufferers or morphinism but their parents, relatives and friends,—millions of them—have been thrown

into the agonies of desperation by the uniformly, unvarying verdict of text-book writers, essayists in medical journals, orators of our meetings. They have coolly described the divers tortures undergone in all the stages of the disease by the morphine users; they have followed them through the various circles of an inferno more terrifying than any imagined by Alighieri and over the closed portals of this hell they have emblazoned this inscription still more despairing than that of Dante: *Non guardate mai speranza voi che siete dentro*. All hope abandon, ye who are in.

As little hope we are authorized to entertain of suppressing narcodoulosis as a pandemic, so much greater must be our solicitude for individual cases worthy of compassion, and these are the immense majority.

To the constant extension of narcodoulosis implanted as it is now in our midst, there is probably no end in view but the one hoped for by Bakounine and his disciples for the term of the Russian despotism.

The genius of Hartman, the philosopher of the Unconscious and the chief apostle of Pessimism, had not reckoned with this agent when he postponed to the most distant future the stupendous catastrophe into which he foresaw in the dim remoteness, aeons ahead of us, man and his life's works vanishing into the dark gulf of annihilation through a supreme despairing act of universal suicide.

But to the pitiful wretch who suffers and wants to be cured, we must give not hope only, but assurance that he shall be cured.

*Il faut dire dans la souffrance;
Ayez espoir da nsl'avenir
Car ici-bas sans esperance
Mieux vaut mourir.*

One must say in suffering;
Let us have hope in the future!
For in this world, without hoping
Death is better.

As Horace would have said:
*Opino hoc sentit;
Moriari! Mors ultima linea rerum est.*
(Horace).

Turbidometric Tests of Milk, Blood and Other Fluids.—The fluid in a very tapering wedge-shaped vial or glass is inspected through a narrow slit. As this slit is moved upward a point is reached where objects behind become visible through the fluid which is more or less opaque at the thick end of the wedge vessel. Schlesinger says that one is able thus to estimate the fat content of breast milk and market milk and detect admixture of water, to estimate the number of corpuscles in the blood, and, after destruction of the red corpuscles, to determine the proportion of whites.

MEDICAL MISSIONS.*

By DAVID O. HANCOCK, Henderson.

I count myself happy to stand in your presence at this hour. "The building of a perfect body crowned by a perfect brain is at once the greatest earthly problem and the grandest hope of the race. If the mind, that rules the body, ever so far forgets itself as to trample on its slave, the slave is never generous enough to forgive the injury, but will rise and smite the oppressor. The morality of clean blood ought to be one of the first lessons taught by our pastors and teachers. To preserve health is a moral and religious duty. Life is not to live, but to be well."

The iron of helpless sickness and remorseless death enters deep into the heart of humanity. Whoever comes to men with weapons wherewith to fight these enemies is made welcome. There are no circumstances of human life that do not open a way for him who is willing to bear burdens and to cheer the hearts of his fellow men. The greatness which comes by service is a greatness which can constantly be exercised. There is no fixed law of mortality. The vital resources of our country, measured by earning power, are four times our wonderful physical resources. The conserving of vital resources is the larger problem of State and National efficiency.

Napoleon was about to refuse clemency to the imprisoned Williams, when the Empress Josephine, with jeweled fingers, ran down the line of petitioners to Jenner and uttered his name. The Emperor paused, and exclaimed—"Ah, we can refuse nothing to that name."

We have New Testament authority for this department of missions. Christ Himself set the example by ministering to the sick. Indeed, He cited among the proofs of His Messiahship that "the blind receive their sight, the lame walk, the lepers are cleansed and the deaf hear." Of His thirty-six recorded miracles, were not twenty-four of physical healing. And there must have been scores of others, for we read that "all they that had any sick brought them unto Him, and He laid His hands on every one of them and healed them." So our medical work is not a mere humanitarian addition, but an essential part of our Christian service. We can not pass by on the other side of countless sufferers or shut our ears to their unceasing cries of agony.

Every non-Christian land is a land of pain. All the diseases and injuries common in America, and others far more dreadful, are intensified by ignorance appalling and filth indescribable. An Oriental tour fills the mind with ghastly memories of sightless eye-

*Read to Mid-Year Meeting, Louisville Conference Board of Missions, Fourth Avenue Methodist Church, South, January 19, 1912.

balls, scrofulous limbs and festering ulcers. If your child is ill, your physician understanding the case and its remedy, the sympathy of friends and the sweet comforts of the Gospel, make the sick-chamber a place of peace and probable recovery. But "what are those marks which so thickly dot the body?" a missionary asked Dr. Neal, in China, as he examined a little girl—such a wan, pitiful little girl. "Places where hot needles have been thrust in to kill the demon which is believed to have caused the pain," was the startling reply. "What a horrible foot! ejaculated another as he looked with Dr. Avison, in Korea, at a poor fellow who had hobbled in. A fall had made a bruise. On the advice of a native doctor, oil had been smeared over it and set on fire. Dirt and flies had aggravated the resultant sore till the whole foot was literally rotting away.

But with many such memories of horror, there are also memories of medical missionaries walking through that land of pain in the name and spirit of the Great Physician, cleansing filthy ulcers, straightening deformed limbs, giving light to darkened eyes, healing fevered bodies, robbing death of its victory.

The following are the present statistics of medical missions abroad—Hospitals 576; Dispensaries 1,077; In-patients 164,751; Dispensary treatment 4,253,375; Total treatments, 7,578,942; Surgical operations (major and minor) 157,378.

I need not here review the location, manner of establishing, or support of these seats of effort. Personal initiative, energy, industry, and thrift are essential elements of successful enterprise. The Lord's business is no exception to any other. He is not going to do what we can do ourselves; He is not going to do without us, what He can do by using us. He will not rob us of a reason for our existence, of the dignity of our lives. The endeavor to inaugurate the Kingdom of Jesus Christ in the world is, from every view-point in reality, the most splendid work that can possibly be accomplished: His Universal Kingdom of Righteousness, Joy and Peace located in men's hearts. It is proven as good for trade as for sentiment. Scientists admit its influence as valuable for the evolution of the human race as the philosophy of Herbert Spencer.

The Art of Healing is an essential part of Christian service. The personal character and scientific qualifications of its representatives are unquestioned and unquestionable.

"Their eyes have the beauty of kindness and patience from experience of human weakness and trouble of all sorts: keen and penetrating as having looked through the mists of pain and disease searching for hope,

aye, and finding it, too, sometimes, where others could find only despair; brave and steady, as having met death constantly face to face; clear and good as having looked through the glorious glass of science, and seen, more plainly the more they looked, the working of the Everlasting Arms: for surely when science brings confusion and doubt, it proves that the eye of the beholder is dim or distorted, or that he is too ignorant to use the glass aright."

Mission work is Domestic and Foreign; at Home and in Heathen lands: It is conceded the work of the Church and its authorized representatives. Of them in more recent years laymen have come in for an important part and physicians and surgeons as valuable adjuncts. The object of all being the betterment of mankind and primarily the conversion of the world,—the saving of souls.

There is a field of human effort which may more, strictly, and properly be termed Medical Missions. This is originally in charge of the medical profession. But which has been the more successful as laymen and the church have been enlisted in promoting its purposes. These purposes are essentially the same as those of the church;—economic, humane, Christian.

A great work is being done. *The vital resources of our country are four times our wonderful physical resources.*

Senate document 419 of 1910 states that at all times in the United States about 3,000,000 persons are seriously ill and that half of this illness is preventable. Appraising each life lost at \$1,700.00, and each year's average earnings at \$700.00 *the economic gain possible annually from preventing disease could exceed a billion and a half.* The real waste can only be expressed in terms of human misery. "It is in the power of man to rid himself of every parasitic disease." *Fifteen years at least could be added at once to the average of human lifetime by applying the science of preventing disease. More than half of this additional life would come from the prevention of tuberculosis, typhoid fever, and five other diseases, the prevention of which could be accomplished by purer air, purer water and purer milk. These statements are the highest authority.*

In the fight against tuberculosis during 1911 a total of \$14,500,000 was expended in this county, according to a statement recently issued by the National Association for the Study and Prevention of Tuberculosis. Of this sum nearly twelve million dollars went directly toward the treatment of patients in sanatoria and hospitals, and the remainder for dispensaries, open-air schools, publicity campaigns, and other agencies. New York raised \$3,550,000, this being the largest an-

ount contributed by any state, and Pennsylvania was second with a contribution of \$2,265,000. Appropriations of over \$10,000,000 for 1912, have already been made by the various states, and the present year will no doubt see far larger expenditures than the year just gone. The encouraging feature is that this is a winning fight that medical science is waging against tuberculosis, and there should be no lack of funds to carry on this warfare for humanity's sake.

Kentucky might profitably invest more money in this way. Our Vital Statistics Law which has but one year of service shows what we never knew before, that 30,000 people, citizens of Kentucky, died in one year.—1911, and that 12,000, or 40 per cent, of these deaths in Kentucky in 1911 were from preventable diseases; and that 5,000 of these 12,000 preventable deaths were from tuberculosis. Other equally important and practical knowledge has been given us by this Vital Statistics Law and yet there are at this moment before our legislature of Kentucky several bills to repeal this Vital Statistics Law. Is it not time for Home Medical Missionary Work? Our powers of investigation, administration and disseminating information can be adequately enlarged only by sufficient available funds, and this duty lies at the door of the State. Preventive medicine is the watchword of the hour, and enlistment in the cause can come only through education. There are two important factors in public health work. One is the gaining of new knowledge through scientific research; the other is the diffusion of this knowledge through education. The two go hand in hand. Funds, money, is the lubricator of this beneficent machinery. State appropriation is the solution of the whole matter.

It has been amply demonstrated that a large proportion of patients in the incipient stage of consumption through proper methods of living and supervision, may secure an eventful arrest of the infection. The plan of sending these patients from home for treatment has been tried out and found wanting. *We are sick of separations when the heart most needs those who love.* At this opportune moment comes the advice, "Treat them at nearby sanatoria and return them to their accustomed stations in life. *Prevention, management and treatment are the individual and social requirements of the subject.* Institutional prevention and treatment are demonstrated successes. Institutional therapeutics offer the best that is known on this subject to-day. The County-nearby-Sanatorium would meet these indications.

It seems timely that we should emphasize our present knowledge of alcohol as to *heredity, predisposition to disease and loss of*

brain power. Men who are authorities on this subject state that the disturbances of the brain by alcohol leaves an indelible impression, and that these defects are transmitted from parent to children, and that brain degeneracy exists in every child born of alcohol-using parents. In the second generation the degeneracy becomes more manifest, while as a rule it remains for the third and fourth generations to reap the full results of alcoholism. Parental intoxication tends to produce impulsive degenerates and moral imbeciles. It may not be recognized immediately, although in infancy it may show itself in convulsions, meningitis and other forms of nervous debility. Some children show signs of mental deficiency and lack of moral control, while others exhibit idiocy, epilepsy and hysteria. In a reformatory school in Berlin hereditary taint due to parental alcoholism is shown in 67 per cent. of all pupils. Of 55,000 school children examined in New York City, 58 per cent. were below the required standard, and 17 per cent. were actual dullards, bordering on idiocy.

The family history of 3,711 of these children was traced through three generations. Of the children of abstaining parents and grandparents only 4 per cent were dullards, whereas in children of drinking parents 78 per cent. were dullards, or feeble-minded. Are fathers willing to deliberately continue to bring this curse upon their offspring?

A great economic loss is the individual mental discount caused by alcohol. Psychological tests show a discount of 25 to 40 per cent. in mental power of those who use alcohol, even moderately. Sometimes the power of memory is discounted to 70 per cent. A young man starts in life with every equipment for a successful career. He takes to drink and becomes one of the ordinary or even not so much. This is the history of thousands and is a great loss to the State.

The great American fraud—patent medicine, which for so long robbed and devitalized our citizenship, is being systematically and surely destroyed.

The prevention and destruction of infantile life is receiving its just recompense of reward.

Quacks and imposters have disappeared.

Are these and kindred subjects of less importance than the conversion of the heathen? They constitute a field of medical missions which have appealed to an enlightened and aroused public. They are economic, humane, and Christian. The church, ministers, lawyers, doctors, citizens of every calling and profession are united in demanding and securing a rightful dealing with these subjects.

Now is the "accepted time" to make our

requests known. Our legislature is in session. Many of these questions will come directly before that body at this session. Each Representative and Senator is anxious to serve his constituency. The "hope of reward is greater than the fear of punishment." We shall need no Referendum or Recall if we make our request known and keep prominent the blessedness of "Good and Faithful Servant."

1. The powers of the State Board of Health, should be enlarged and its appropriation increased.

2. Adequate appropriation should be made to the State Anti-Tuberculosis Society.

3. Enabling laws should give to counties the power to provide county sanatoria, and the State should encourage the same by special appropriation.

4. One large central institution should be provided for the study and treatment of consumption.

5. The county unit law should prevail.

6. The Vital Statistics Law should be retained.

These recommendations carried out to results would mean an expenditure of an immense sum of money. One hundred county infirmaries at \$25,000 each, paid for by the county, would be \$2,500,000; one central institution should cost not less than \$1,000,000, or a total of \$3,500,000. Large as this sum is, it dwindles into insignificance when compared with the cost in human life values at \$1,700 per each one dead or, 5,000 lives at \$1,700 is \$8,500,000 loss in Kentucky from deaths from consumption alone in 1911, and \$700 annually in average wages lost. The real waste as we have said can only be expressed in terms of human misery.

We deplore the seeming deliberation with which our State handles these subjects.

Carlyl said, "Every noble work is at first impossible." Wellington at Waterloo said, "Hard pounding, gentlemen; but we will see who can pound the longest." Milton wrote, "I argue not against Heaven's hand or will, nor bate a jot of hearts or soul, but still bear up and steer right onward." We of Kentucky are as "watchmen on the wall." We should sound no uncertain note on these subjects, nor is it sufficient that we cry aloud; we must work and continue to work. Johnson wrote "Great works are performed, not by strength but by perseverance." Harvard said, "Perseverance is a Roman virtue that wins each Godlike act and plucks success from the spear roof crest of rugged danger." It was Longfellow who wrote, "The divine insanity of noble minds, that never falter or abates, but labors, endures and waits till all that it foresees it finds, or what it cannot find, creates." And from Burke we have, "The

nerve that never relaxes, the eye that never blanches, the thought that never wanders, there are the masters of victory."

THE HOUSE FLY AND HOW TO GET RID OF HIM.

By J. HUNTER PEAK, Louisville.

You have heard of "tardy information, advanced information, inside information," but I have for you tonight information on the fly, *musca domestica*.

Most people think that the world is only about six thousand years old, but that is only the recorded history of man. It is known to geologists that man must have existed long periods of years before that time.

Geologists record time by its influence upon the earth's crust and do not record time in periods of years, but in eons, or long cycles of years, and since the earth's crust has been sufficiently developed to support life, time has advanced into millions of years as we reckon time.

There is a little story extant that tells how away back in the early tertiary period, after many animals and insects had already made their advent into the world's history, that there were many more getting ready to make their debut so it was decided to hold a convention and decide the exact time for their universal appearance on earth. The fly said in his speech on the subject: "Oh, well! all you fellows may trot along, and get out as soon as you like, but man has decided to make his permanent advent into society during the latter part of the tertiary period, and I am going to make my start into the world with him," and I want to say to you that he did, and that he has been man's constant companion ever since.

In my description of the fly, I will begin at the north end and tell you about him in the order of his anatomy south, so far as it would be permissible to talk about his majesty in polite society.

The antennae, or feelers, are situated on the head and since you recognize that they are usually found on insects and lower forms of life where they have no eyes, you wonder why the fly needs the antennae since he has so many eyes. The antennae are covered, as is the whole fly, with minute cilia, or hairs. Each antenna has three joints and the antennae, or feelers, are very useful to the fly, particularly if he has happened to some accident which has caused the loss of the sight of his eyes.

We have two eyes and the glorious visions are permitted to behold in nature make us wonder what the fly's conception of the uni-

verse must be, when he has four thousand eyes on either side of his head to see with during the sunlight and three more in the center of the head to use at night, or in poor light. Scientists tell us that with all the great number of eyes which a fly has, that he can not see very well; that he is near-sighted and must have very peculiar ideas of the proportions of objects seen. For instance, if a fly is on the floor and is watching a man approach, the feet of the man look to him like huge coal barges attached to long, conical trees pointing upward and ending at the top with a very small body and a tiny ball on top of the body which answers for the head.

Some people believe that the house fly can bite and some have gone so far as to say that if a fly is infuriated that he will bite, but of all the bad things that can be said about him, that calumny should not be added to his credit. There are flies, such as the stable fly which look like the *muscae domesticae* which can bite, but if you will observe them more closely, you will find that their wings set out straighter from the body and this gives them a more pointed appearance about the head and thorax. Sometimes we find them about the house, particularly just before a rain storm. Therefore, the old saying, "Flies bite before a storm," because they can bite severely, and while they ordinarily do not bother man, yet, when they seek shelter in the house from a storm, they very naturally like to find something good to eat, hence, the fierce bite on the ankle when you have on low-cuts.

There are many other flies which you have often seen in the house, such as the small, slender lady you often find around the vinegar jug, where she deposits her eggs to be hatched out in the acid media, where they thrive and mature. Then you occasionally see the blue fly about the house. There are two kinds of this insect: a small and a large variety, which give birth alive to their larvae. They are called the blue bottle flies, and have a special fondness for decaying vegetable and animal matter, where they deposit their larvae for future development. This blue bottle fly is akin to a fly of the western plains, which also gives birth to her larvae and deposit them on fresh wounds of animals where they naturally become very destructive to the flesh and very often, if treatment is neglected, produce death in a very short time. Men, on the plains, have had the nose-bleed and have carelessly lain down to sleep, with the nose still bloody, and have waked to find themselves infected with this deadly larvae of what is commonly called in that country the "screw fly", which infection in this part of the body usually means a quick and horrible death.

But, I am about to forget my description

of our common acquaintance, the housefly. While he can not bite, don't think for an instant that he is not provided with a means of getting a living. He has a bill, or more properly speaking a proboscis, which curls up on itself so that it is almost invisible until he finds something which he wants to sample. Do you know that when it comes to eating or sampling foods, he is a connoisseur?

The proboscis is, of course, hollow, and connects directly with the alimentary tract, and he has the power to secrete a fluid of unusual solvent power, which he forces down this slender tube into sugar or other substances he wants to put into condition for swallowing. Then he has on the end of this delicate instrument two pads which close up around his food and then acts like a bulb filled with a fluid and supplied with an opening. Not only have these pads this function, but they are made like a file and the fly is able to rasp off a good meal from albuminous book-bindings and even from the kitchen table which the cook thinks perfectly clean. It is really amusing to watch the fly bother the bald-headed men who think the fly a fiend, and only wants to whiz around his bald pate to worry him, but it is not nearly so good as the edge. So also another meal which is supplied by the ingredients of the perspiration found on the man's head.

The fly has peculiar digestive organs making it possible for him to acquire a meal from almost any place and upon almost any substance, and more particularly, the products of disease and decay. You will always find him around decaying vegetables and animal matter. It has been said that he has some of the propensities of the cow. You know that if you turn a cow into a corn crib that she will not eat the corn as she comes to it, but will walk right to the top and begin there, even if it is not nearly so good as the edge. So also the fly—he wanders around over everything before he finds a place which suits him to begin eating. This habit of the fly makes him very dangerous and a menace to society.

One other peculiar thing about the fly's digestive organs is that while he can obtain sufficient nourishment to live from nearly all kinds of food, yet, his digestive fluids do not destroy the bacteria which he eats. On the contrary the bacteria, seem to multiply in the alimentary tract and pass out even more virulent, to cause all manner of trouble through the "speets" he always leaves behind. In this way, he not only infects our food stuffs with tubercular bacilli and typhoid germs, but he spreads disease through open and unprotected wounds.

The fly's thorax comes next in order of his makeup and is important for the attachments of wings, legs, abdomen and other important

organs. He has no lungs and no trachea to use in respiration, but he is fitted up with a series of small openings or tubules which pass down into the body by the means of which he is enabled to create his blood and is thereby enabled to recuperate rapidly.

The wings are peculiar in many respects. He has only two—making him a dipterous insect, but scientists tell us there was a time when he had four wings, or two pairs. That must have been when our race was nomadic and wandered around from place to place, and he had to do some tall flying to keep up with the profession, but since man rides around in carriages, automobiles, trains and steamships, the fly does not need but one pair of wings which enable him to go abroad and continue his business of being man's constant companion.

The wing of a fly is almost as thin as tissue paper and yet it has passing through it air chambers making the wing capable of inflation which keeps the wing taut and stiff. If you puncture the wing with a pin, the fly wonders what has happened, or he may think himself drunk because he can not go straight and will fly in a circle and always fall short on the injured side. You may naturally wonder how he can pump the wings full of air. Well! scientists have not named this little instrument or organ but have described it, so I will describe it and call it a bulbar, pneumatic pump, two in number, one just beneath each wing, which he uses to keep his sails inflated. You may ask "how do you know it was found out that it performed any such a function?" Well! if you injure it on one side, the wing loses its inflation and it has just as hard time trying to fly as when you puncture the wing, and goes hard to the starboard if it is the right wing or right pump either that is injured. This little, pneumatic organ has another important function. It is highly sensitive to odors. It is peculiar, is it not, to have the nose under the wing? But what is the differ nce after all, if it unerringly directs him to dinner—and I want to say to you that he can smell a good meal cooking far away. He is always on hand for the spread and, by the way, he just comes right in without invitation and takes a seat, usually on the best plate of food. He does not even have any manners though he has been associated with man so long, yet, he has never learned to wait for an invitation to sit down to dinner. In fact, as soon as he starts in, he makes a survey of everything that is not hot and does not wait for "thanks" to be returned for what he is about to receive. It is a funny thing that he does not want all the food on the table and does not eat nearly as many things as we have for ourselves, but he invariably inspects every dish and seems to take a

fendish delight in crawling over it all before you have an opportunity to begin eating and really becomes insulted if you try to shoo him away; and just to show his indignation he takes a bath in your milk or ice tea, and sometimes, in his mighty wrath, he takes his wife for a swim too. Some people say he takes her along just to take his spite out on you and does not care if she drowns, so long as he swims and can make you mad. And if you should not notice their presence in your milk and drink flies and all, well! is it not strange how one thing brings up another—and I just keep right on telling you about the interest we have in the fly instead of continuing my description of his wonderful mechanism.

A while ago, we were talking about the fly's wings, and if you will notice closely you will see a scallop in both wings and just at these points you will notice small organs, called "stoppers" which really are rudimentary wings and are the remains of the wings he has discarded in the process of the fly evolution, but they still have an important function. When a fly is going at a two-thirty gait, he can stop very quickly by turning these organs around, he simply turns the rudimentary wing to the wind on the side to which he wishes to turn. By the way, the aviator might learn a good many things from the mechanism of the fly that would aid him in constructing a scientific aeroplane. A fly can move along at about five feet per second, or he can go as fast as thirty-five feet per second, which is a two-thirty gait. The fly has the power to move his wings at the rate of six hundred and seventy-five times per second. This is arrived at by listening to the notes made by the wing vibrations and then finding the same key on the piano and you will find that it is E, first line of treble clef, which is made by six hundred and seventy-five vibrations.

To the thorax are also attached, as we have seen, the legs, six in number—three on either side. Do you know that the spider and the deer tick at one time must have belonged to the fly genesis and it is said that when the spider decided to become a wingless insect, he became the eternal enemy of the fly. It may be because he lost his wings and had to learn the new trade of spinning, a business upon which a fly looks with considerable trepidation. The fly is so afraid of a spider's web that he is very cautious of even a few strings tied across a window and the ancient Egyptians used to keep him out of the house by a simple process of imitating a spider's web made with thread in the open window. It was Demosthenes who told us about the fishermen who could not even sleep nor rest at night along some coast line, except when they would wrap themselves up in their fishing nets. The fly thought them spider-webs; hence, the fly

nets made to protect the horse. Not that a fly could not do business right down through the larger spaces in the netting, but he will not do it because it looks mightily like a fly trap made by a spider.

There are some curious things about a fly's legs and feet. The leg is strong and jointed in such a way that he can comb his head and make his general toilet with the hair brushes attached thereon. The foot has been a study a long time and very many people have had lots of discussions about how a fly can walk on a smooth glass or on the ceiling. Some said that the foot was made like a leather sucker and by exhausting the air from under the foot, thereby producing a vacuum, that the weight of the surrounding air made the foot hold. A very pretty theory! but like many other theories in this world, they have been exploded by demonstration of facts to the contrary. Then an old Swiss priest made himself famous by explaining that a fly has claws on his feet and that he could hold on to the wall by inserting them into crevices so small we could not see them. Then later on, exploding his own theory by polishing a pane of glass with impalpable powder so it would not have any place for the claws to hold to, and imagine his surprise when he thought he would fool Mr. Fly and have the pleasure of seeing him slip up and break his neck, but Mr. Fly just for a good joke started right across that glass as easy as anything. This same priest then made the statement that the fly had a power to secrete a sticky fluid by which he was enabled to stick himself to the wall. You can imagine the ridicule and comments this silly talk caused among his parishioners, but it has since been demonstrated that the priest was right in his hypothesis.

The fly has a peculiar foot under a magnifying glass. It looks not unlike the ostrich's foot with three toes and it is real interesting how he fastens his foot to the wall like a sticking plaster, and then see him remove it when he wants to move on; he does it by pulling up one side at a time just like you remove a porous plaster, by beginning at one corner.

Can you imagine a more perfect filth carrier, or disease dispenser than the gummy-footed fly? Scientists have demonstrated that you can grow almost all the known bacteria from the foot of any fly, no matter where you catch him; no matter if it were on the bleak summit of Greenland's icy mountains or on the sunny shores of some tropical clime. It has been demonstrated that you can grow on gelatin culture media not less than forty varieties of bacteria and millions of each variety by simply letting a single fly walk across the exposed gelatin media.

The time will come when no eating house or restaurant will be permitted to do business

without the proper precaution of screens for all dining halls and kitchens and then the proprietor will be made to protect all food stuffs from the menace of the fly. About the only safe way to eat now, about any eating house, is not have the waiters serve you anything that has not been well cooked and then brought to the table hot. This is obvious for if the food stuff has become contaminated by flies before cooking, the heat used in cooking would kill all bacteria and if the food is still hot the fly will not bother it except by accident.

This fight against the fly has existed for sometime in England and it is said that people are not compelled now to keep their houses screened like we do. In this country the Jewish Women's Council, the Ladies' Clubs, and various Health Boards have decreed that the fly must go, and with all that array of antagonists, I would like to know what chance the fly has anyway.

In Louisville, Dr. Grant, the City Health Officer, has introduced in the City Council an ordinance to protect the public against the fly. It makes it a misdemeanor and finable from five to one hundred dollars for each offense for anyone to allow any food stuffs of any kind to remain exposed to flies, and makes it imperative on the part of hotels, restaurants, groceries, milk dairies, and all markets to keep everything to eat well screened.

This law also makes it imperative for all stable owners to keep their stables clean and to keep quicklime thrown over all ejecta and refuse thrown out of stables or kept in receptacles and all house-keepers are required to keep the garbage-can in the same way. Of course, the first thing to do is to protect ourselves against the fly already extant in the land. The next best thing is to destroy all breeding places of the fly so he can not propagate his kind. The normal habitat of the fly is dirt and filth and he breeds best in decaying animal and vegetable matter. The fly does not like the places where cows are kept like he does a stable for horses. It has been estimated that there could be found in one pound of horse manure more than twelve hundred young flies.

The fly is awfully prolific; it has been said by Dr. Howard of the Agricultural Department of the United States Government that each female fly will raise, with good luck not less than one hundred and twenty flies in a season and when you take into consideration the fact that there can be from two to three generations of flies raised in one month, you can begin to realize what an enormous increase may occur in a few months. In addition, in the abdomen of the female fly is developed those eggs which are deposited in suitable places for future development. In about five to eight hours the egg hatches and

then it is called a larva. The larval period lasts from five to seven days and while the larvae are exceedingly small at first, they grow rapidly depending upon climatic conditions, and the media in which they are growing. Then the larvae suddenly burrow into the ground beneath the refuse in which they have grown and quickly develop into pupae and then cease to be active and hibernate from five to seven days during the pupal state, when they become full grown flies, ready for business at the same old stand. The metamorphoses is quick, complete and interesting. So prolific is the fly that it has been estimated by scientists that if a mamma and papa fly should have good success with all their progeny and none of the babies should die from infantile diseases, and they should start out on their martial life in early April, and in five months or by the latter part of August were to have a family reunion, that more than 1,700 billion would attend the family festivities. When I read that, I said that it was simply a big fish story, but I started out to make some calculations myself, and allowing only two generations in one month and ten generations in the five months, I saw that it was a mathematical problem, so I began to do some figuring, and at the beginning of June I had a long string of figures, I said that I would quit or I would have to tell a bigger one than that I had just read.

About the only way one can have any conception of such a large number is by connotations of facts we are already familiar with. A fly is one-fourth inches in length, and then it would take forty-eight of them to make one foot, if they were to stand end to end. There is 5,280 feet in one mile; then 5,280 times 48 would give you the number of flies to make one mile, that answer divided into 1,700 billions will give you 6,000,000 miles; that divided by 25,000, the number of miles around this world at the equator, will show you that this string of flies would go around this old earth more than two hundred times. Then allowing that two flies can stand side by side on a one-fourth inch space, that would give you eight flies standing side by side to the inch; hence, two hundred divided by eight would give you twenty-five inches, or you would have a patch of flies twenty-five inches wide extending around the world. No wonder old Pharaoh told Moses that he would let the children of Israel go when the flies swooped down upon him.

Then it has been estimated that four flies can occupy one-fourth inch square space, then it can readily be shown that two hundred and fifty-six flies can be made to occupy one cubic inch of space, or about 400,000 to the cubic foot. 1,700 billion divided by 400,000 equals about 4,000,000 cubic feet; 4,000,000 cubic

feet divided by 2,250 cubic feet in a room fifteen feet square, ten feet high will give you 2,000 rooms to hold that number of flies. There are about five rooms to any modern residence, then 2,000 divided by five equals 400, or 400 houses each with five rooms, 15x15x10 would be required to accommodate that family reunion of that pair of flies which had been housekeeping just five months.

But, my friends, do not take these calculations too seriously, because flies have a hard time to get along and raise a family at all. The larvae are the prey of birds and barnyard fowls and the fly himself is subject to all sorts of accidents and even diseases.

You have often seen flies standing around on window panes and look as though they had been dusted with talcum powder, well! they are sick and that whiteness is not due to being pale either, but is due to a fungus growth called by scientists *empusa*, which often becomes epidemic among the *muscae domesticae* and causes great loss of life. Then, no doubt, you have noticed that flies sometimes have red spots on them and you wonder what the occasion is for which she is painted, but that is not rouge, and the fly would like very much to get rid of her paint, or what looks like paint for that is another local manifestation or symptom of another parasitic disease to which the fly is heir and this disease destroys them in great numbers every year.

With our homes screened, we will not be able to keep all flies out so long as they exist; hence, the importance of destroying not only all breeding places, but have fly paper to catch those incarcerated in our homes.

The fly manifests but little judgment about a great many things. If you have fly paper around the house he does not notice the predicament of his neighbor which has learned too late that he can not get away, and thinking that everything on earth is made for his physical wants and to satisfy his appetite he joins his companion in endurance vile.

There are a great many poisons which a fly will eat. Some do him no harm, and that may account for his recklessness in sampling everything which looks good to him, but many of the poisons kill him, and one of the most deadly poisons to the fly is a two percent formaldehyde solution arranged in a bottle with a tight cork split on the side with a wick made of absorbent cotton, which, when the bottle is inverted, acts by capillary attraction and allows the contents of the bottle to drip out constantly. If this inverted bottle is placed in such a way that the fluid will drop into a plate every fly in the house will partake of the deadly portion and quickly die.

Psychologists teach us that man is the only animal having the power of thought, and that insects like all lower animals cannot think,

but do things by instinct and memory. This may be correct, but I could mention many things done by insects which look very much like they have some reasoning power, but I am not going to raise that question for argument, but let it be instinct or memory, the fly has learned to keep away from spider webs and if one ever disentangles himself from fly paper you could not entice him to try it a second time; likewise, he is very careful about going around anything that has a fly paper resemblance, and some have gone so far as to say that he warns all his friends about the dangerous quality of the paper trap.

While the fly is not afraid of the odor of many oils, the essential oils such as oil of wintergreen, oil of peppermint, etc., yet, he is mortally afraid of the scent of sassafras. Though none of these drugs are especially poisonous to him, yet, you know that any kind of oil will destroy not only the fly but almost any other insect if placed over his body, because if he should take a tumble into such a bath he would die from asphyxiation. You will remember that I told you that flies breathe through their skins and any substance which would close the tubules through which air passes, would immediately smother them to death.

I remember when I was a boy to have seen farmers break off sassafras limbs covered with leaves and hang them about the horse to keep away the flies. Scientists tell us that sassafras in itself, is not harmful to the fly, but there is a grayish looking spider which infests the sassafras bushes, in order to raise its young, and you may rest assured that whether it is thoughts or memory, the fly has not forgotten his old enemy, the spider, and when he scents sassafras he pulls out for tall timber. Now the oil of sassafras is not unpleasant to have around and if you are waiting to screen your house, just place on a rag some oil of sassafras and place one in each window and door and away goes the flies. If this should give you perfect protection against the fly, don't fail to screen your house, because it keeps out not only the fly but the mosquitos and other dangerous insects.

Axial Rotation of Fibroid.—A spinster, aged 67, sought Bland-Sutton's advice on account of pain, discomfort and frequency of micturition, associated with a large tumor which could be felt in the hypogastric region. It had the clinical features of a uterine fibroid. When exposed in the course of the operation performed for its removal, the tumor proved to be as big as the head of a new-born child. On withdrawing the tumor the pedicle was found to be twisted like a rope; on untwisting it the ovaries, Fallopian tubes and uterus were recognized. Subtotal hysterectomy was performed.

NEWS ITEMS AND COMMENTS

DR. M. W. STEELE has been reelected City Health Officer of Corbin.

DR. A. T. BOTTS, of Cave City, visited the State Board of Health laboratories and offices.

DR. I. W. JONES, of Owingsville, has gone to Los Angeles for his health and to take a post-graduate course.

OLDHAM—The Oldham County Medical Society met at Dr. A. E. Harthill's home in Pewee Valley, February 29th, at 1:30 P. M.

WARREN—Dr. T. O. Helm, of Bowling Green, who has been quite sick at St. Joseph's Hospital is now able to resume his practice.

DR. H. A. WILLIAMSON, an old practitioner of Boone County, has been confined to his room for some time with a complication of diseases.

DR. JOHN J. MOREN, of Louisville, read a paper on "Acute Spinal Paralysis" before the Whitley County Medical Society February 1st.

ROWAN—Dr. I. A. Shirley, of Winchester, gave an excellent lecture on "Hookworm" before the Rowan County Medical Society at Morehead.

THE Boone County Medical Society will meet in Cincinnati on the 21st inst., as guests of Drs. Langsdale and McKim. A great time is anticipated.

DR. FRED D. CARTWRIGHT, of Bowling Green, has returned from a post-graduate course in New York and Montreal and has opened an office on State street.

DR. J. S. LOCKE, of Barboursville, doing hookworm research work for the Rockefeller Sanitary Commission deserves great praise for his splendid work in the mountains.

A TELEGRAM to Dr. H. R. VanZant, of Edmonton, Metcalfe County, states that his son, Joe VanZant, of Jacksonville, Illinois, died last night. He was kicked in the head by a mule a few days ago and his skull fractured.

WARREN—A young lady has arrived to live permanently with Dr. Fred Reardon. She has not been initiated into the Warren County Medical Society but is able to cry votes for women.

DR. BENJAMIN T. NYE, 34, of Williamsburg, Kentucky, and Miss Amanda Ward, 22, of Whitley county, Kentucky, were married Saturday night in Jeffersonville by Magistrate John M. Malone.

DR. H. W. GATES has gone to Wharton, Texas, to escape the extreme cold weather we are having. He writes he will be home in April and will then send us some news items from McLean County.

MRS. CHAS. P. WEAVER, of Louisville, who lectures for the School Improvement League, and Mrs. Stewart, President of the Kentucky Teachers' Association, visited the State Board of Health Laboratories.

THE JOURNAL staff acknowledges the receipt from Mr. E. D. Chapinan, representative of the Phillips Chemical Company, a box of cocoa. It was so good that our only regret is that a sample couldn't be given to every reader of the JOURNAL. If you like cocoa, try Phillips'.

At the instance of Dr. W. R. Burr, a member of the Logan County Board of Health, one, "Dr. J. W. Moore, who gave his address as Louisville, Kentucky, was arrested and fined the limit of the law for practicing medicine without license so to do."

ACCORDING to the last census there are 130,000 physicians in the United States; this includes doctors of every description, as well as osteopaths, psychopaths, hydropaths, etc. There is one doctor to every 650 of the population and the average income of a physician is said to be \$1,200 per annum.

DR. HARRIS KELLY, former Coroner of Jefferson County and well known here, but now a resident physician of Star Ranch, Among-the-Pines, Colorado Springs, was injured several days ago when struck by a motorcycle. His condition is not thought to be serious. Dr. Kelly left Louisville several months ago.

THE County Secretary writes from Woodford County that their doctors are so busy that they have not had a meeting of the County Society for two years, and that the present officers are so popular and efficient there has been no election for going on four years. Wake up! You have a lot of good doctors

over there, why not have the best society in the State.

THERE are seventy-five cases of smallpox in Monroe County, five new cases being reported January 31. Two deaths have resulted. Sections in the northwestern part of the county are under quarantine. There is not a single case of the disease within two miles of Tompkinsville. The health officers, Drs. Morris, England and Duncan, are doing their best to keep the disease from spreading.

MADISON—The culmination of a romance which began in a hospital at Richmond, Ky., more than a year ago, came February 11th, when Dr. Hugh R. Gibson, of Richmond, Ky., and Miss Bernice Ward Orr were married at the home of the bride's parents, Dr. and Mrs. D. F. Orr. The ceremony was performed by the Rev. C. C. Orr, of Morristown, Tenn., an uncle of the bride, who is presiding elder of the Morristown district of the Southern Methodist church.

DR. W. ED. GRANT and the Louisville city health department, with the aid of the police and the board of safety, will soon inaugurate the annual spring anti-spitting crusade. Cards will be printed and distributed among citizens warning them of the law against and the penalty for spitting in public places. An effort will be made to have two members of the police department detailed in plain clothes to be on the lookout on street corners and cars for violations of this ordinance.

THE secretaries of Lyon, Nelson and Estill Counties write that nothing of interest professionally has happened in their counties. I trust every secretary will keep informed concerning the various incidents of interest occurring in the families of the physicians of their County, which would be of interest to the profession of the whole State. We want this for the News Column of the JOURNAL. Please direct all communications to the Editor, News Department, KENTUCKY MEDICAL JOURNAL.

ACCORDING to the report of the Louisville health department for the month of December, physicians are advised that Flexner's serum can be obtained from the health officer. Seventy-two deaths from cerebro-spinal meningitis occurred in Louisville last year, but none was of the variety that is benefited by this serum. The births, numbering 491, far exceeded the total of the mortality table, 278, for the month of December. The sanitary department destroyed by order of the court 580 pounds of fish, 225 pounds of beef, 3,706

rabbits, 325 gallons of oysters and thirty dozen eggs.

FOLLOWING the discovery of several cases of smallpox near First and Green streets, Louisville, Dr. J. I. Whittenberg, superintendent of the Eruptive Hospital, vaccinated fifty negroes in that neighborhood.

With a bodyguard of patrolmen, Dr. Whittenberg invaded saloons, poolrooms and other places, and wherever a group of negroes was found the policemen would guard the doors and windows while the physician worked with his needle until all in the crowd had been vaccinated.

Dr. Whittenberg said it was his opinion that the disease did not originate in Louisville, but could be traced to negro "floaters."

CASE OF PENNY WISE AND POUND FOOLISH. Several years ago the Fiscal Court of Adair County employed Dr. U. L. Taylor to furnish medical attention to the prisoners in the county jail. They gave him \$25.00 per year. He made only ten visits during the year, and they gave him the job for two more years with similar results. The court concluded then that it would be cheaper just to send a doctor when needed for a dollar a trip. They refused to make a contract for the year. There was a man in jail on a felony charge, who broke jail and was making his escape. The son of the jailer pursued and shot the man with a Winchester rifle, breaking his thigh bone. Dr. Taylor and two other doctors were employed to treat him and it cost nearly \$400.00.

DR. L. F. ROBBINS, of Salt Lick, was laid up with La Grippe for a week or two in January, but is able to be about now.

DR. JOSEPH H. SCOTT, aged 79, a retired physician, died of nephritis at his home, 950 South Preston street. He had been ill for several months. He was a native of Lincoln county and received his medical education in this State. He practiced in Kentucky and later in Texas. Ten years ago he retired and established his residence in Louisville.

He is survived by his widow, Mrs. Eunice Sharp Scott; two sons, Frank Scott and Harry Scott; two daughters, Mrs. Minnie Price and Miss Eunice Scott; a brother, Walter Scott, of Texas, and a sister, Mrs. Ella Florence. Senator W. O. Bradley is a brother-in-law of the dead man.

FAYETTE—Several prominent members of the Fayette County Medical Society, including Dr. J. W. Pryor, Dr. B. F. VanMeter, Dr. C. F. Dale, Dr. L. C. Redmond and Dr. Carl Wheeler, went to Paris February 15th,

to attend the regular monthly meeting of the Bourbon County Medical Society, and participate in the dinner which followed.

The meeting was held at the Paris Courthouse, and about fifty physicians were in attendance. The program was a highly instructive and entertaining one, and was concluded with a dinner at which the Lexington visitors were guests of honor. Drs. VanMeter, Dale and Wheeler took part in the discussion of the various papers. One of the entertaining features of the program was a humorous recitation by Dr. Keller, of Paris.

ONCE more the Supreme Architect of the Universe in his infinite wisdom has knocked at the door of the Henry County Medical Society and called from labor here on earth to everlasting refreshments above our brother physician, Dr. F. J. Yager, who departed this life in January, 1912.

Resolved, That in his death, the society has lost a true and faithful member, his family a kind and loving father and the community in which he lived a good physician.

Resolved, That these resolutions be spread on our records, a copy sent to the bereaved family, to the KENTUCKY STATE MEDICAL JOURNAL, and to our county papers for publication.

February 19, 1912.

WEBB SUTER,
A. P. DOWDEN,
Committee.

In a report on Vital Statistics Legislation it is pointed out that in only 24 of our States do we know how many human lives are lost each year; in 25 States no books are kept. In only 9 States are any birth records kept, and in most of these this has been done but a few years. In the census report for 1910 the fact appears that our death ratio is based on returns from only 58.3 per cent. of the entire population. In Alabama, Florida, Georgia, Louisiana, South Carolina, Tennessee, Texas, and Virginia an effort has been made to register deaths in the larger cities, but none has a general registration of deaths or recording of births. Proper legislation for securing vital statistics is urged in these States. Aside from the value of vital statistics from the point of view of public health, birth records have an important legal significance, as attested by the following instance: George A. Wagner of Manchester, N. H., has been elected Probate Judge of Hillsboro County, but cannot take office because no record of his birth can be found.

DR. J. N. HURTY, Secretary of the Indiana State Board of Health, delivered an address on "Preventive Medicine" before the Asso-

ciation of County School Superintendents and the Western Kentucky State Normal School at Bowling Green, on the evening of February 7th. There were about 1,200 people present in Vannmeter Hall, and Dr. Hurty's splendid address was punctuated by frequent bursts of applause. There is a quaint, quiet line of humor running through Dr. Hurty's address which made it sound all the more human and forceful. The actual experiences he told as to problems that had faced the State Board of Health of Indiana were most interesting and helpful. Everybody present voiced their appreciation of the action of the *American Medical Association* in sending Dr. Hurty to Bowling Green.

It will be of interest to everybody that Dr. Hurty carefully inspected the laboratories and Vital Statistics Bureau of the State Board of Health and was especially cordial in commending them.

The National Confederation of State Medical Examining and Licensing Boards will hold its 22nd annual meeting in Chicago, Illinois, on Thursday, February 29th, 1912, at the Congress Hotel.

The subjects to be considered at this meeting will be: The good a federation of medical boards can do; "What should be the qualifications for membership in a federation of medical boards"; "Methods of conducting state licensing examinations"; "Medical school equipment and state board license examination"; The organization of a federation of state medical boards."

The topics to be presented are practical to all those interested in medical education and a federation formed upon lines to be suggested will necessarily prove fruitful.

An earnest and cordial invitation to this meeting is extended to all members of state medical examining and licensing boards, medical teachers, delegates to the Council on Medical Education of the A. M. A., and all those interested.

The officers of the Confederation are President Charles A. Tuttle, M. D., 196 York St., New Haven, Conn.; Secretary-Treasurer Geo. H. Matson, M. D., State House, Columbus, Ohio.

PREACHING the "gospel" of good health, and with "More Life" as his subject, Dr. W. L. Heizer, State Registrar of the Bureau of Vital Statistics of Kentucky, delivered an address at the Centenarian Methodist church, New Albany. The address was under the auspices of the Y. M. C. A., and is one in a series of the Men and Religion Forward Movement.

The speaker went into detail to tell his audience that certain troubles, such as tubercu-

losis, typhoid fever, hookworm and many other diseases, were practically preventable; that the medical profession, with the co-operation of the laity, could reduce the preventable maladies to a minimum.

In the course of his address the speaker paid a very high tribute to Dr. J. N. Hurty, secretary of the Indiana State Board of Health, who, he said, has done as much probably as any man in the nation in the fight against preventable diseases.

He urged the importance of competent health officers for both city and county, whose duty it is to guard the purity of the food and water supply and to control communicable diseases to the end that they may be confined to the household in which they occur. He said that the lives and health of the people were a city, State or nation's greatest asset, and money expended for their conservation is a most economical proposition.

THE YAWP OF A TYPHOID PATIENT.

"Get Well"
Oh! Hell
How can you
When you're blue
And you'd be too,
All day
Far away
On second floor
With shut door.
Oh! my,
Guess I'll die
To-night
For Spite.
The doctor said,
'Keep her in bed
And quiet
Her diet
Milk and broth.'
By my troth
Sorry dishes,
Ye gods and fishes
I'm hungry too
What must I do?
But to be fair
I've had good care,
My nurse there
Would be a loss,
But she's cross.
And I am too, see,
Say wouldn't you be?
But no knell for me
I'll get well
Oh! Hell.

G. H.

One of our correspondents recently interviewed Dr. C. W. P. Brock, the Chief Surgeon of the Chesapeake & Ohio Railroad, in Richmond, and has sent us the following statement, made by Dr. Brock as to the method of

vaccination of the Confederate army. It is of special interest in Kentucky where the State Board of Health has already recommended that vaccination be made with humanized virus where it is possible:

"Richmond, Va., November 18th, 1911.—During the late war between the States, I was sent for by Surgeon General S. P. Moore, and was told that small-pox was very extensive among the Confederate soldiers, and that he wished enough vaccine virus created and collected to vaccinate all the soldiers in the Confederate Army, and this done very speedily; and that he would order as many Surgeons to report to me for duty as I may desire. I asked him how many soldiers were to be vaccinated and he told me two hundred and fifty thousand.

"I asked Rr. Moore to order Dr. Russell Murdock to report to me for this duty. Dr. Murdock reported to me, and I instructed him to commence at the western end of the town and vaccinate all healthy children of healthy parents, and told him that I would do the same thing in the Eastern section of the town, making a house to house visitation. We went to work and vaccinated healthy children under three years of age in six places on each arm, thus securing twelve healthy vaccine crusts.

"At the end of six weeks I had accomplished it, and furnished the Surgeon General for distribution to the Army, healthy vaccine crusts which were distributed, each crust being wrapped in a piece of tinfoil, with instructions how to use it; and in six weeks I had filled the bill, and was complimented by the Surgeon General upon my work.

"In no case was any other disease communicated by the vaccination, and I was successful in stamping out small-pox in the army."

Coley's Toxins in Sarcoma.—Oliver cites ten cases in which he used the toxins, but he had such poor results that he discourages further use. He says comparatively few persons are cured by its administration, the vast majority, at least 90 per cent. of the cases, are uninfluenced by its use. He says one is not justified in assuming that this treatment will ever influence any large proportion of the cases of sarcoma favorably.

Massage of the Nerves.—Joffe relates experimental research which demonstrated a markedly injurious action on nerve tissue from pressure such as is applied in the modern "pressure massage" treatment of neuralgia. Fifty-two experiments showed that the benefit in neuralgia is due to blocking of certain of the nerve fibres from degenerative processes. The centrifugal fibers seemed to suffer more than the centripetal.

COUNTY SOCIETY REPORTS

Boone—The Boone County Medical Society met with Dr. Hafer, of Florence, February, 1912.

After the regular business session, supper was served, after which the program of the evening was taken up.

Gordon F. McKim, of Cincinnati, discussed "Chronic Prostatitis," which discussion was made very interesting with the exhibition of specimens.

W. E. Senour, of Bellevue, who was elected honorary member of our society at this meeting, read a most interesting paper on "Animal Experimentation; Its Contribution to Medicine and Surgery."

After a free discussion of the above subjects the meeting adjourned, to meet the 21st of February with Drs. Langdale and McKim, of Cincinnati.

F. L. PEDDICORD, Secretary.

Bourbon—The Bourbon County Medical Society held its regular monthly meeting Thursday, February 15th, in the Bourbon County Court House at 7:30 p. m.

PROGRAM

Report of Committees.

E. O. Smith, Cincinnati, read a paper on "Relation of Kidney Activity to Surgical Operations."

Dudley Webb, Cincinnati, read a paper on "Specific Urethritis."

Guests from Cynthiaana and Lexington were present. After the meeting a buffet luncheon was served in the basement.

D. B. ANDERSON, Secretary.

Carlisle—The Carlisle County Medical Society met at Arlington in the office of Dr. Jackson, on January 2, 1912, with President T. J. Marshall presiding.

After Divine invocation by Dr. Hocker, the minutes of the December meeting were read and approved.

The Chair appointed as a Committee on Necrology Drs. Hocker, Gholson and Mosby.

The scientific program was next taken up, and consisted first, of an excellent paper on "Broncho-Pneumonia," by **R. T. Hocker**. He covered the field completely.

The next subject was "Lobar Pneumonia," by **T. L. Lamkin**. He, failing to get a program, did not prepare his paper, but made a very interesting and instructive talk.

Both subjects were discussed jointly.

T. L. Lamkin uses veratrum heroically, pushing it for the full effect.

W. Z. Jackson was partial to carbonate of creosote, which, he believes, is almost a specific.

T. J. Marshall and **J. T. Dunn** also took part

in the discussion which was closed by **R. T. Hocker**.

The society adjourned for dinner.

Reassembled at 1:30, and were entertained by Prof. Puckett, of the Arlington High School, who read a very interesting paper on "Medical Inspection of Common Schools." He stated that adenoids and hypertrophied tonsils were causes of dull pupils. Bad teeth should be looked after and in fact all abnormalities should be looked after and corrected.

Every one present took an active part in the discussion. The society regretted very much that the laity was not present to get the benefit of the much needed information. Prof. Puckett closed the discussion.

Members present: Drs. T. L. Lamkin, T. J. Marshall, W. Z. Jackson, R. T. Hocker and J. F. Dunn. Jno. R. Owen, of Arlington, being physically disabled, was absent. Emmet Owen, of St. Louis, being present, was elected honorary member.

The society adjourned to meet at Bardwell on February 6th.

J. F. DUNN, Secretary.

Henry—The Henry County Medical Society met in the office of the Secretary on Monday, January 29th, at 2 p. m. Meeting was called to order by Alfred Wainseott, president, the following members being present: O. P. Chapman, Webb Suter, Everett Morris, A. P. Dowden, W. L. Nuttall and Owen Carroll.

On motion of Everett Morris, the society adopted resolutions congratulating J. N. McCormack and the members of the State Board of Health on the manner in which they have made use of the appropriation made by the last legislature and the direct benefits that Kentuckians are now receiving from the expenditure; endorsing the present system of selecting the members of the State Board of Health and the untiring work of its Secretary. Also the scientific efforts of Dr. South and her collaborators.

Copies of these resolutions are published in full in our county papers and the Courier-Journal. On motion of Everett Morris, the President appointed the following committee to confer with our present Senator and Representative in regard to medical legislation: Everett Morris, W. L. Nuttall and Owen Carroll.

On motion of Dr. Dowden, the following committee was appointed to prepare resolutions in regard to F. J. Yager, the oldest member of the society, recently deceased. Committee: A. P. Dowden and Webb Suter.

The society having decided to prepare a program for its work for the entire year, the Secretary presented the following program, having appointed two doctors to prepare papers for each meeting and two to discuss same.

The society discussed the plan of preparing an operating room at its headquarters for such oper-

ations as may be brought before the society, the plan met with the approval of the members present and will probably be adopted.

A. G. Eliston and W. B. Oldham were elected to membership.

Drs. Suter, Chapman, Waincott, Dowden, Nuttall, Morris and the Secretary, were appointed as a committee to visit all doctors in the county who are not members of the society and endeavor to convince them that they should be members, for their good and the good of the society.

Meeting adjourned to meet again February 26th.

OWEN CARROLL, Secretary.

Henderson—The Henderson County Medical Society met at the Y. M. C. A. building, at 8 o'clock p. m., with President J. W. Cooper in the chair. Others present were, Drs. Forwood, Floyd, Dixon, Branson, Quinn, Letcher, Moseley, Hancock, Neel, Ligon, Griffin, Galloway, Graham, visiting, Drs. Lorton and Wachenfeld. Minutes of meeting December 11th, 1911, read and approved. Motion made and carried to accept program for the year 1912 as printed, committee to make any changes agreeable to, or requested by individual members. Motion made and carried to refer insurance fee matter of Dr. Forwood to a special committee. Motion made and carried that this committee be a special board of censors. The chair appointed the following as said committee: Drs. Letcher, Neel, Galloway. Motion made and carried that said committee report at an adjourned meeting of this society on Monday evening, at 8 o'clock, January 29th, 1912.

A. Dixon read a paper on "Atypical Scarlet Fever." The essayist emphasized the importance of a guarded diagnosis in such cases, easy to diagnose typical cases, but hard to diagnose atypical cases. He thought the most contagious cases should be quarantined.

Discussion led by Dr. Griffin in which he raised the question of proper fumigation after scarlet fever, citing a case where new cases developed in the family ten days after fumigation.

W. V. Neel heartily endorsed the paper, never knew of cases developing after fumigation.

J. C. Moseley thought most contagious stage was when disease was most active. Urged caution in atypical cases.

C. B. Graham spoke of fumigation.

W. M. Floyd enjoyed paper, and spoke of the combining of formaldehyde with permanganate of potash, said some claimed the combination was inert.

W. S. Galloway agreed with the essayist Has had over two hundred cases in the past few years.

E. Branson: Atypical cases are hard to diagnose, urged caution, and isolation.

J. C. Moseley: Does not believe the combination of formaldehyde and permanganate are inert.

A. Dixon, in closing, said he did not believe the combination of formaldehyde and permanganate were inert. He admitted his inability to diagnose atypical cases, an admission in earlier days of his professional career he was not free to confess. The paper was a most excellent one, and timely.

The newly elected President, **James W. Cooper**, read a paper on the "Complications of Influenza." The essayist first told what it was, and then recited the most frequent complications, among which he mentioned pneumonia, bronchitis, tuberculosis, various brain diseases, mentioning the fact that the poison frequently attacked the heart and kidneys. Germs may enter through the respiratory, or alimentary tract. The death rate is 1 per cent.

Arch Dixon, in discussion, complimented the essayist's description of the disease. He thought the disease not near so common as reported. Indicated that when physicians were in doubt they took refuge under the broad term la grippe. He thinks it a very serious disease, giving personal contact as evidence. Said he was benefited by sea voyage. He mentioned the very prevalent practice of giving whiskey in these cases, to the patients' delight, perhaps prolonging his real or supposed indisposition.

J. C. Moseley thought that the complications may be due to the primary cause (grip germ). Complications more really a part of the original disease.

W. S. Galloway thought the disease local at first.

M. V. Neel thought the paper one of the best ever read at this society.

W. M. Floyd said that head symptoms were usually prominent, and urged the importance of giving strict attention to the naso-pharynx, urging thorough cleanliness of these parts.

J. W. Cooper, in closing, referred to very satisfactory treatment by quinine and the coal-tar preparations, stating that to these the disease usually responded very readily.

Our annual banquet was held January 8th, and notwithstanding the very cold weather, there were fifteen present. A splendid feast was served by Parquy, after which came the usual after-dinner oratory, heard only in medical assemblies. The outlook for a splendid year's work by the Henderson County Medical Society is very promising.

PEYTON LIGON, Secretary.

Laurel—The Laurel County Medical Society met in O. D. Brock's office, February 7th, 1912, when the following officers were installed for the year 1912: H. S. Pitman, President; J. B. Mason, Vice President; O. D. Brock, Secretary.

The society is protesting against the passage of the optometry bill.

Next meeting March 20, 1912.

O. D. BROCK, Secretary.

Owen—The regular monthly meeting of the Owen County Medical Society was held in the I. O. O. F. building in Owenton, on Thursday, February 1, 1912, with President Maurice Bell in the chair, and with Maurice Bell, J. W. Botts, A. E. Threlkeld, W. B. Salin, J. H. Chrisman and George Purdy answering present.

The forenoon was devoted to a discussion of "Appendicitis." **A. E. Threlkeld** reported a case. Much interest was manifested in the question of a white blood count being one of the factors in determining whether or not to operate.

W. B. Salin read a paper on "Intestinal Obstruction," which was complimented and discussed by all present.

Two of the essayists begged further time which was granted, and another subject was added making the program for the next meeting as follows: "Heart Murmurs; their Significance and Diagnostic Value," paper: J. W. Botts; discussion: K. S. McBea. "Scarlet Fever," paper: J. H. Chrisman; discussion: R. H. Alexander. "Pellagra," paper: A. E. Threlkeld; discussion: W. E. Foster.

Adjourned to March 7, 1912.

GEORGE PURDY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson, at Butler, on Wednesday, February 14th, 1912, with the following members present: Beckett, Blackerby, Caldwell, Clark, Daugherty, Hopkins, Kenball, McKenney, John E. Wilson, J. Ed Wilson, W. H. Yelton.

The meeting was called to order by President Blackerby, and after the usual routine we proceeded to business under new business.

H. C. Clark moved that the State Society be asked to nominate J. H. Barbour as an honorary member of the State Association, on account of his age, eighty-eight years. Motion carried.

On motion of **H. C. Clark** that the chair appoint a committee to draft suitable resolutions indorsing the actions and the course of Dr. J. N. McCormack as a member of the State Board of Health, and pledging him our hearty approval and cooperation, and that a copy be sent to our Senator and Representative. Motion carried.

On motion of **Ed Wilson**, that we as a society draft resolutions in regard to the Vital Statistics Law, indorsing it and ask our Senator and Representative to stand by it. Motion carried.

The following members were appointed on both committees:

John E. Wilson, J. Ed Wilson, C. H. Kendall.

We then had a report of clinical cases, and owing to the physicians all being busy, we only had two papers, which were very good, and brought out free discussion.

W. A. MCKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson, at Butler, on Wednesday, January 24, 1912, this being a called meeting of the society on account of a failure to have our regular meeting on the second Wednesday in the month, due to the inclemency of the weather. The following members were present: Beckett, Caldwell, Daugherty, Hopkins, Kendall, McKenney, Nickols, John E. Wilson, Woolley, W. H. Yelton, visiting, L. F. Poe. The meeting was called to order by Vice President O. W. Brown, and after roll call and a reading of the minutes we proceeded to the business of the day.

Under new business, the Secretary-Treasurer made his report for the past year. The following members paid their dues: O. W. Brown, C. H. Kendall, J. F. Daugherty. We then had a report of clinical cases, and as the members had had a number of interesting cases of appendicitis, the day was spent in reporting the various experiences and a most interesting class of cases was reported. The hour being late, and only one member present with a paper, we decided to hold that over until our next regular meeting, so as to have a full program for that ray.

W. A. MCKENNEY, Secretary.

Rowan—The Rowan County Medical Society met at the office of A. L. Blair, on the 24th of January, 1912; present: F. M. Carter, F. M. Thomas, A. L. Blair, J. Wilson, and G. C. Nickell. The meeting was called to order by A. L. Blair, Vice President, and upon motion G. C. Nickell, Secretary, read the minutes of the last meeting. On motion of F. M. Carter the minutes were unanimously accepted.

On motion of J. Wilson, and seconded by F. M. Thomas, that all former medical societies existing in Rowan county be dissolved and held as void, and for the members present to organize what shall hereafter be known as the Rowan County Medical Society, the motion was unanimously adopted by all members present.

On motion of F. M. Carter, and seconded by J. Wilson, that the members proceed at once to organize, this motion received the unanimous vote of all present. The Chairman having declared nominations now in order, whereupon F. M. Carter nominated F. M. Thomas for President, which was duly seconded, and there being no other nominations, Dr. Thomas was elected by acclamation.

On motion of J. Wilson, and seconded by G. C. Nickell, A. L. Blair was put in nomination for Vice President; there being no other nominations, Dr. Blair was elected by acclamation.

On motion of F. M. Carter, and seconded by F. M. Thomas, G. C. Nickell was nominated for Secretary, and there being no other nominations, G. C. Nickell was elected by unanimous vote.

On motion of J. Wilson, and seconded by F.

M. Thomas, G. C. Nickell, F. M. Carter and A. L. Blair were elected Censors.

On motion of F. M. Carter, and seconded by G. C. Nickell, it was moved that the next meeting be held in the courthouse on Friday, February 23rd, 1912. Said motion carried unanimously.

On motion of F. M. Carter, and seconded by J. Wilson, the society voted to adjourn.

G. C. NICKELL, Secretary.

Spencer—The Spencer County Medical Society met at Dr. Crenshaw's office on Monday, January 15th, at 3 o'clock P. M. Our county being small, it necessarily follows that our society is small; we have ten physicians in active practice, six of this number being members of the county society.

The meeting was called to order by Vice President E. C. Wood and after hearing the Secretary's report, the election of officers was taken up: E. C. Wood was elected President; B. F. Shields, Vice President; O. M. Crenshaw, Secretary-Treasurer; S. L. Reid, Censor; J. F. Furnish, Delegate, and R. Y. Shepherd, Alternate.

The Secretary was ordered to write the members of the legislature from this county, asking them to use their influence against any proposed legislation licensing any one to fit glasses, or in any other manner treat diseases of the eye, except regularly qualified doctors of medicine.

The Secretary was also instructed to write the Secretary of the State Board of Health and ask him to appoint Doctor E. C. Wood, J. F. Furnish, and O. M. Crenshaw as members of the county board of health.

Several matters of local interest were discussed; each member present renewed his allegiance to the State Association by depositing with the Treasurer \$2.50 and expressed a heartfelt desire to save the county society from dissolution and pledged themselves to attend the meetings and do what they could to support the society and help each other.

R. Y. Shepherd very kindly invited the society to meet with him at the next regular session; invitation accepted.

O. M. CRENSHAW, Secretary.

Warren—The regular annual meeting of the Warren County Medical Society was held at St. Joseph's Hospital, Wednesday, December 13th. J. W. Lewis in the chair, and the following members present: F. D. Cartwright, H. P. Cartwright, W. P. Drake, F. G. Rogers, E. N. Hall, W. J. Keen, Finis London, B. S. Rutherford, I. H. South, W. F. Arnold, J. N. McCormack, J. H. Blackburn, T. W. Stone, W. C. Simmons, J. W. Lewis.

E. J. Keen reported some unusual cases. The first, a normal delivery, one hour after birth of child patient had syncope, became pulseless, unconscious, uterus firmly contracted. In two hours patient rallied and made an uneventful re-

covery. No apparent reason for the untoward symptoms. Case 2. Man lived fourteen miles in the country, age 28 years, unmarried. On the previous evening ate a large amount of pickles, salmon and crackers, had convulsions, was unconscious, urine showed presence of large quantity of albumen. Died in two days. Never regained consciousness. Case 3. Baby born without anus. Operated, found the rectum only a small cord. Baby lived one week. Case 4. Negro, sixteen years old, during a fight his opponent stuck a knife into the skull which broke off. The piece could not be removed with all kinds of forceps, so trephined into the skull and recovered the portion of blade.

H. P. Cartwright discussed the cases and reported several that had occurred during his long years of practice.

L. H. South gave a stereopticon demonstration of hookworm infection in Kentucky.

W. F. Arnold outlined the treatment.

The following officers were elected: President, T. O. Helm; Vice President, Finis London, Woodburn; Second Vice President, W. P. Drake; Delegates, W. C. Simmons, H. P. Cartwright, B. S. Rutherford; Alternae Delegates, Finis London, W. P. Drake, J. N. McCormack; Sensors, T. W. Stone, J. G. Rogers, E. J. Keen.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held at St. Joseph's Hospital, January 10, 112, at one p. m., with the following doctors present: W. F. Arnold, J. H. Blackburn, W. P. Drake, L. H. South, T. W. Stone, A. T. McCormack, H. P. Cartwright, Reardon.

H. P. Cartwright read a paper on "Prognosis of Pneumonia," a specific disease, specific cause, runs its course in a limited time if we do not do too much for it. Lobar pneumonia in infancy rarely kills, runs a typical course, temperature usually runs high. Rarely a death unless due to complication. Formerly they were bled, given aconite, fresh air, warm room, pain rare, never blister. Treatment. Essentially for comfort of patient, opiate if necessary. Warm, moist atmosphere. Use purgative, calomel especially. Dry harsh cough, alkaline carbonates. Ammonia carbonate, Dover's powder. Coal tar products for high temperature. No complications can predict favorable results. Strychnine for stimulants. Does not give digitalis. Just before crisis symptoms unfavorable. Gaseous fermentation frequent occurrence in pneumonia.

W. F. Arnold saw a great deal of pneumonia during student days. Saw epidemic of pneumonia on ship. Showing effects of cold draughts on etiology of pneumonia. Reduced vitality caused pneumonia, chill practically at night. Treated one hundred and fifty cases. In central pneumonia diagnosis difficult until rusty sputum occurred. Saw very virulent pneumonia among In-

dians in Alaska. Mortality very high. Mortality not great in the young. In Chinese and Japanese war, never recalled a case among them. Cuban soldiers, saw a great deal of pneumonia, lobar pneumonia very fatal in the aged. Father had it followed by abscess of lung, (eighty years old).

J. H. Blackburn: Negro woman beyond eighty lobar pneumonia, recovered. Patient seventy-nine. Condition at present not favorable. Alcoholism deleterious effect on pneumonia patient.

E. N. Hall called last night to see a man with pneumonia. 104 P. 126, age 26 years. Called next morning, patient's temperature normal.

A. T. McCormack gave report of Vital Statistics in which 8 per cent of deaths were due to pneumonia.

F. D. Reardon: Man, age 83, lobar pneumonia, recovered. Died three years later of kidney trouble. Father died of pneumonia. He advocated bleeding.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held at St. Joseph's Hospital, Wednesday, February 14th, 1912. T. O. Helm, the president, in the chair and the following doctors were present: W. P. Drake, Moss, Lewis, Arnold, Adair, Richard Drake, Souther, Huddle, London, Rodgers, Blackburn, Briggs, McCormack, Helm, South, Weaver, of Allen Springs; Cartwright and Hall.

W. F. Arnold gave the report of the committee on selection of place of meeting.

The Mayor **Dr. G. E. Townsend**, offered a room in the City Hall which was accepted by the society.

W. F. Arnold moved the society appoint a Committee on Library. The president appointed W. F. Arnold, J. H. Blackburn and J. W. Lewis.

J. H. Blackburn donated a complete file of the Kentucky Medical Journal.

A. T. McCormack offered files of the A. M. A. Journal and some recent works on Surgery.

A. T. McCormack spoke on the "Operative Treatment of Fractures."

W. F. Arnold lengthily discussed the subject.

G. E. Huddle reported a case of gun-shot wound of the arm.

J. H. Blackburn spoke of his recent visit to Philadelphia attending the Surgical Association.

W. A. Briggs reported a case where the patient fell out of a tobacco barn injuring the fibula, a large lacerated infected wound resulted so that a portion of the fibula had to be removed. The patient has excellent use of the ankle.

A. T. McCormack reported a case of interval appendectomy. The appendix was buried in a sac of adhesions back of the colon, the appendix was large and funnel shape, and was removed with a great deal of difficulty.

Finis London proposed the time of meeting be changed from 1 p. m., to 10 a. m. It was decided

that the Secretary notify all members and ask them to vote on this question.

J. H. Blackburn reminded the society that the April meeting would be held here in conjunction with the Logan and Simpson County Medical Societies.

The society adjourned to meet March 13,
L. H. SOUTH, Secretary.

Warren—A call meeting of the Warren County Medical Society was held Saturday, January 20, 1912. The meeting was called to order by Vice President W. P. Drake.

J. H. Blackburn told in detail that the meeting was called for the purpose of sending a resolution to our Representative and senator requesting that they vote against House Bills numbers 90 and 74, and also that the Vital Statistics Law remain intact.

W. F. Arnold, F. D. Reardon, J. H. Blackburn, T. W. Stone, E. N. Hall were appointed on the committee and wrote appropriate resolutions and sent them to our representative and senator.

No other business the society adjourned.

L. H. SOUTH, Secretary.

Whitley—The Whitley County Medical Society met in Williamsburg, February 1st. President S. S. Brown presiding. Members present. S. S. Brown, A. A. Richardson, J. E. Ellis, L. B. S. Brown, A. A. Richardson, J. E. Ellis, L. B. Croley, L. O. Smith, A. T. Slemmons, J. H. Parker, T. J. Ballard, E. S., and C. A. Moss, P. G. Petrev, G. G. Ellison and M. W. Steele.

At the invitation of the society **Dr. J. J. Moren**, of Louisville, was present with a paper on "Acute Spinal Paralysis." The paper of Dr. Moren, which will appear in the JOURNAL, was a masterpiece on the subject, and brought forth many words of praise and commendation from all present. Those discussing the paper were **E. S. Moss, T. J. Ballard, L. B. Croley, J. H. Parker and L. O. Smith**.

J. J. Moren fears a general epidemic.

J. H. Parker read an excellent paper on "Cerebro-Spinal Paralysis." This paper will be published in the JOURNAL.

L. O. Smith, L. B. Croley, E. A. Moss, J. J. Moren, S. S. Brown, C. A. Moss, A. T. Slemmons and L. O. Smith lead in the discussion.

All cases reported showed a very large mortality. **S. S. Brown** reported having treated ten cases with only one recovery. The iodides was the treatment in this case.

A. T. Slemmons thinks well of the serum treatment. **J. H. Parker** has noticed that the largest mortality occurs in females. **J. J. Moren** states that a number of cases have been reported occurring in physicians.

The society was entertained with a splendid dinner at the Gentry Hotel by Dr. E. S. Moss, after which the society reconvened for a short business session.

After some pointed and well taken remarks by the President for the good of the society, **Drs. Lafayette Sproule and Seabury Sullivan**, the oldest practitioners in the county, were voted honorary members of the society for life.

J. H. Parker and L. B. Croley were elected delegate and alternate delegate to the State Association.

A vote of thanks was extended Dr. Moren for his paper, and the Secretary was instructed to enroll him as an honorary member of the society.

The next meeting will be held at Corbin, April 4th.

M. W. STEELE, Secretary.

BOOK REVIEWS

Merck's Manual of the Materia Medica, (Fourth Edition)—A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of chemicals and drugs—not confined to "Merck's" with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of therapeutic indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever"; a Classification of Medicaments; and Miscellany, comprising Poisoning and Its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. (Merck & Co., 45 Park Place, New York, 1911. 493 pages. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any College of Medicine, in the United States).

Injection of Blood Preliminary to Operations.

—Esch refers in particular to extremely anemic and weak patients with hemorrhagic uterine myomas. They need myomectomy at once and yet their resisting powers are at a dangerously low ebb. In order to improve conditions he injected defibrinated blood in two cases; three injections of 20, 15 and 30 c.c. and 15, 20 and 22 c.c. of the defibrinated blood in the course of fourteen days, improving the condition to such an extent that the hysterectomy was then safely performed. The hemoglobin rose from 25 to 46, and from 23 to 36 per cent., the improvement parallel in both cases and evidently strictly connected with the injections.

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ORIGINAL ARTICLES

THE AFTER TREATMENT OF ABDOMINAL OPERATIONS.

By LEWIS S. McMURTRY, Louisville.

On a previous occasion I presented a paper to this society on the subject of complications following abdominal operations, and it has occurred to me that we could profitably consider, this evening, much more briefly than on the preceding occasion, the after treatment of the average abdominal operation, excluding the management of complications and exceptional symptoms.

The interest that pertains to this subject with all of us is obvious, because the after-treatment of abdominal operations often falls into other hands than those of the surgeon who does the operation, and it is frequently a matter which requires the combined services of the physician and surgeon, which facts make the subject one of almost universal interest.

Among the many interesting and instructive object lessons at the World's Fair in Chicago, there was none that was more impressive than that in the Transportation Building, where a replica of the first steam locomotive that was ever used, was put alongside a modern, perfected, Baldwin locomotive of the present time. These two machines looked as if they had no kinship; the evolution of the modern locomotive could scarcely be traced step by step from one to the other, so much did these two machines differ. Yet there stood out one great, important lesson—the principle of locomotion by steam was the same in the one as in the other. Now, I think

it may be appropriate to use this simile to illustrate the evolution of modern surgical technique. Whereas to-day the surgical operation in all its technical details is so different from what it was fifteen years ago, and especially in abdominal surgery, that it seems that the whole thing has changed and left very little of what was there at first; yet, just as the same principle is in the modern locomotive as it was in the first locomotive, so the Listerian principles that underlie surgery are just the same to-day as they were before. But it is a fact that the perfected modern technique in surgery, which has evolved from the early and first methods, has exerted a most wonderful influence over the after treatment of abdominal operations.

You all remember that in the early days we did a great many things that we do not do now. It was absolutely necessary to pass through this period of evolution in order to separate the wheat from the chaff, the essential from the non-essential, to eliminate the things that were harmful, in order to reach that condition which marks perfection in all departments of art, and that is *simplicity*. It is only by the process of evolution that this can ever be done in any department of surgery. As Velpeau expressed it, "Surgery is never so attractive as, when stripped of all its paraphernalia and useless hand-ages, it stands forth in its naked perfection." So, if you take any department of surgery whether it be brain, abdominal, or orthopedic surgery, in the advancement of the work the non-essentials are thrown aside, and perfection is marked by simplicity.

In early times, one of the very first things that embarrassed the after treatment of abdominal operations, was the method of anes-

thesia. I must take up these points in order that I may forcibly present to you the first and essential point in the after treatment of operations, when I state to you that the after-treatment is really fixed at the operating table. This was one of the diets of Mr. Lawson Tait, the founder of modern abdominal surgery, who said that the fate of the patient is determined at the operating table more than anywhere else, and that many errors of diagnosis are reclaimed there. Mr. Greig Smith, in alluding to this observation of Tait, amplifies it, and says that there should be a standard of surgical attainment at the operating table which will leave nothing to chance, and that when the abdomen is closed, the surgeon should know, as far as possible, the exact condition that exists therein, and carry with him from the room a mental picture of it, and complete every detail of the operation in a workmanlike manner. So, if we consider the after-treatment of abdominal operations from the standpoint of operative proficiency that has reached, or at least approached, this standard, we will have an after-treatment that is simple and relieved of many of the embarrassments that formerly existed.

First, I would call attention to the older methods of preparation of the patient, and this is not a reproach to the methods of the previous age, because, as I have endeavored to show in my introductory remarks, there can be no attainment of a system of perfection of any surgical technique unless it has first gone through a process of evolution. It is only by testing all the various methods that we are able to adopt the best and dispense with those which are unnecessary. Some of the gentlemen here will recall the time when it was considered necessary to begin the preparation of the patient a week before operation. The patient was excessively purged, calomel was the favorite means of purgation, and it was not an uncommon thing in emergency operations, for the patient to come to the table with the entire alimentary tract churned up with calomel and salts. Of course, that complicated the after treatment. Now that is all gone. I think another important feature in regard to this point is that we now know that it is absolutely harmful; that the patient should not be depleted by excessive purgation.

Another factor which has a great deal of influence upon the after treatment already mentioned is anesthesia. You will recall the time when the anesthetic was administered often times by the family physician; when the professional anesthetist was unknown, and the patient breathed over and over again the same air. This has all been changed and the condition of the patient's kidneys and other eliminative organs after an operation now,

is altogether different from what it was under the old system.

If we take up the methods of treatment directly in connection with the operation itself, we will find that there has also been marked change. Formerly it was the custom to perform all surface operations under a stream of water, and rarely did we see an abdominal operation, especially if there was a septic condition within the abdominal cavity, where lavage was not used. Wet sponges were also used, as they were considered more efficient for absorption, and water flooded all incisions and surfaces. We now know that lavage over incised tissues carries out of those tissues the elements so essential to the repair of wounds, and by the elimination of lavage, the after treatment of abdominal operations has been improved and simplified as to the wound itself, and as to the repair of traumatisms on the inside of the abdomen. With these conditions observed, it was exceptional that an operation was not followed by shock, the extensive lavage, exposure and scraping of the peritoneum being very potent factors in the production of shock. It is exceptional now, in the average operation, where the hemorrhage is controlled as it can be under modern technique, for the surgeon to have to deal with shock as a post-operative complication.

Under the old methods, just as soon as the patient was put to bed he was deprived of water for three days, and suffered torture. You can all remember the time when, under the old system, just as soon as the patient was put to bed the most conspicuous symptom was a terrific thirst and water was withheld. The pain was severe, and it was considered unwise to use an anodyne, such as 1-8 gr. of morphin, or 1-12 grain of heroin, or 1-4 grain of morphine hypodermically, which we now know is not harmful but is really beneficial in the relief of pain and distress and does not produce intestinal stasis as was formerly believed.

Under the old system, just as soon as the patient was put to bed, the surgeon's attention was immediately addressed to moving the bowels. It was considered that the patient could not be termed convalescent until the bowels had moved, and it was the routine practice by many surgeons of high position and authority to begin, within twenty-four hours, to drop calomel on the tongue, as the one agent that would be retained during the stage of vomiting. They also resorted to so-called high enemata and all possible means to make the bowels move as quickly as possible, and when they did move the patient was considered to be in a fair way to get well. It was deemed the best means of eliminating any infection which might have existed at the time of the operation. Now all this has pass-

ed away. There is no necessity, as we now know, of withholding water from the patient. It is good treatment to give patients water when they can take it, and if they vomit it makes no difference. We know also that there is no reason why the patient should not be given an anodyne, and there is no good reason why we should purge the patient immediately after operation. These are items that, in the process of evolution, have been eliminated as a result of improved knowledge.

Now it is good practice, when the patient has been returned to bed after an abdominal operation, to consider first the question of position. If it is an operation for a septic condition, where a large amount of septic material is retained within the abdominal cavity, the law of gravity should, of course, be utilized for drainage. If the operation is in the upper abdomen, such as operations upon the stomach, gall-bladder, etc., this principle should also be utilized. We know that it does not interfere with the comfort or safety of these patients to place them in the Fowler position and maintain it for some time.

Among other things that have been largely eliminated from abdominal surgery, is drainage. Tubal drainage was formerly employed in the majority of non-septic cases as a matter of safety and precaution. It was considered that, by this means, post-operative hemorrhage could be detected, and elimination was perfected, even though the sepsis was not profound. This has been discarded and, as a result, infected wounds, minor degrees of infection of the peritoneum, injuries to the peritoneal surface and viscera, and especially, infection of the incision, have disappeared from the after-treatment of abdominal operations.

Modern methods of suturing and dressing have done much to eliminate unnecessary details from the after treatment; the use of animal suture material, which in the tissues yields readily, and does not by strangulation produce suppuration in the wound, which condition obtained when strong, silkworm-gut sutures were applied *en masse*, and almost invariably tied too tightly. As the result of interference with the circulation, suppuration occurred, and a stitch-hole abscess developed. As declared in an address by Dr. Senn, it was a rare thing to pass through one single day without meeting a stitch-hole abscess. Now we go for years without such unwelcome result.

In our admiration of the great principles of antisepsis underlying the Listerian system, we often overlook the fact that Lord Lister introduced the animal suture into surgery in the form of catgut, and that absorbable sutures and ligatures are an essen-

tial and important part of the modern system of wound treatment.

All of these things are the result of cumulative experience, study, bacteriological investigation, and the work of surgeons, which has extended our field of knowledge and perfected our methods.

I wish to call especial attention to one thing that I have noticed frequently in recent times, and that is undue solicitude in regard to the bowels moving. It is very exceptional that it is necessary to do anything for the patient in the way of preparatory treatment, except to have them come into the hospital on the day before operation, given a dose of castor oil, and then be prepared for operation. After operation do not give a purgative; give an enema, and if this is not effective, give another enema, and if these are not effective, then, perhaps, on the fourth or fifth day, give a dose of castor oil or some other laxative preparation.

Our knowledge as it has increased has shown us that keeping patients in bed for a long time is detrimental to their welfare, and that just as soon as the healing process is established, especially if the patient is over the effects of the anesthetic and the digestive and eliminative functions have been resumed, we can allow them to get up to the comfort and move the bowels without any risk, after the average abdominal operation, and that it is unnecessary to keep them in bed for a long time, and especially is this true of older patients.

Medication of patients after the ordinary abdominal operation, should be avoided. Feeding should be begun as promptly as possible, and the patient should be returned to a regimen very much like that of a patient convalescent from any other condition, without impairing the digestive function, and, on the other hand, without restricting them to the point of depletion. Especially is this important in cases where there has been a great deal of hemorrhage. The use of tonics is rarely advantageous in these cases. The days of excessive medication and unnecessary interference has passed, and we now endeavor to secure a return to normal conditions as soon as possible, enabling the patient to be up and about at an early date, and getting them out of the hospital in a reasonably short time. Much of the advantage of modern after-treatment is due to the fact that patients now come to operation earlier than before. Surgery has "made good" in the eyes of the profession, and operations which were formerly done only as a *dernier resort*, are now performed early, and, of course, the after treatment of these cases is much simpler now than formerly.

I have not undertaken to treat the complications that follow exceptional cases, but it

has been by endeavor this evening to call your attention to the after treatment of the average abdominal operation, and to present to you the general principles of after-treatment which can be modified to meet special conditions as may be necessary. As a rule the treatment is simple, and requires neither medication nor repeated dressings.

DISCUSSION.

J. G. Sherrill: This is a subject that is of interest to all of us, especially because we have all seen the changes that Dr. McMurtry mentioned, in the treatment of wounds, particularly abdominal wounds. I can recall the time when drainage was employed in almost every abdominal section, first with glass tubes and later with rubber tubes, with a wick inside. Finally we learned that we could dispense with drainage even in pus cases. I think it was John G. Clark who first made the claim that we were employing drainage too frequently, and his statement excited quite a lot of discussion. Finally, however, the profession came to realize that he was largely right.

I agree with Dr. McMurtry in regard to the old methods of preparation of the patient, by purging, etc. I like to give a laxative two days before the operation and let the patient alone on the day before. In that way the stomach is less likely to be disturbed and the patient is less apt to have nausea and vomiting occur, however, I have never found anything to equal washing out the stomach. Sometimes once will be enough; other cases will require two washings.

I believe in the early feeding of patients. A member of this society recently made a very brilliant report of a double resection of the intestine, in which he did not feed the patient for nine days, which is much longer than I think it necessary to withhold food. It is the custom now to begin feeding much earlier than we formerly did.

I wish to emphasize the fact that these patients will do a great deal better when placed in an elevated position in bed. This position seems to give the patient more encouragement than the fixed position on the back in which we formerly kept them.

I can recall the time when we used to have stitch abscesses, and remember the improvements that were made, step by step, in this respect. For instance, it was suggested by some that scrubbing the abdomen did severe damage to the cells, diminishing their resistance and thereby allowing infectious material to grow more rapidly. When that was stopped and we simply washed the abdomen with soap and water with soft gauze and alcohol, we found that there was less suppuration. Then when we began to employ rubber gloves, there was still less suppuration. Occasionally, however, wound infection would occur, and when we learned that the atmosphere breathed by the surgeon and his assistants con-

tained a great number of bacteria, we understood the source of these infections. When the mask was adopted, entirely excluding from the field of operation the faces of the surgeon and his assistants, wound suppuration disappeared, and now it is the exception for a clean wound to show any suppuration whatever. Generally, when a wound is clean from the start, the patient is out of bed in ten days, whereas we formerly had to keep them in bed three or four weeks.

Like Dr. McMurtry, I am very much opposed to strenuous efforts to move the bowel after operation. It is much better to put a tube into the rectum to let the gas out, and then, on the third, fourth or fifth day, give an enema and depend upon Nature to do the rest.

Wm. H. Wathen: Dr. McMurtry has presented such a correct review of the evolution from our early abdominal surgery to the perfection of to-day, that it leaves but little for any of us to add. I went through the early evolution, when we had no nurses and had to sterilize our own paraphernalia, and I have watched all the steps of advancement. To-day when I complete an operation and return the patient to bed, I think but little more about the case until I see the patient the next day. I have not been called to St. Anthony's hospital where I usually operate after I had retired at night, a single time in the past six years, whereas, fifteen or twenty years ago, I was called out about every other night. When I have completed my work I know that the patients will get well, under good nursing, about as well if I never see them again.

One of the great things that we have learned is to commit as little traumatism as possible in abdominal work. This is largely the secret of our success. No good surgeon of to-day would use lavage in the abdominal cavity, even in pus cases. It does no good, so far as washing away the infection is concerned, and we may wash away a good deal of pus filled with healthy phagocytes. By lavage, even if we do not sponge out the cavity, we commit traumatism upon the epithelial cells, weakening their power of resistance and their ability to take care of the deeper structures and prevent the absorption of bacteria into the system.

We have also learned that we must expose the intestines just as little as possible. Hence, when we operate, we commit no traumatism, and we sponge as little as possible, and this, together with elevation of the patient to facilitate drainage by gravity, marks a great change from former methods. If septic material is allowed to remain in the region of the diaphragm in the upper abdominal cavity, the germs will be rapidly absorbed into the system after having done great damage in the peritoneal cavity. If, on the other hand, these patients are elevated so that the septic material will drain down into the pelvis, where absorption does not occur so readily, and from which cavity, if need be, we can drain the

material with a rubber tube or a wick, they will nearly all recover. Under the old methods, nearly all cases of extensive suppurative peritonitis, and practically all cases of diffuse suppurative peritonitis, died. Under the present technique, committing as little trauma as possible during the operation, elevating the patient and draining from the bottom of the pelvis, practically all of them get well.

Another advance, not mentioned by the essayist, is the use of saline injections—proctoclysis. With our patient elevated so that the septic matter in the cavity will drain down into the bottom of the pelvis, if we will introduce into the rectum by the drop process, warm saline, so as to fill the bowel and system with water and thus flush out the kidneys, we will find that a patient suffering with appendicitis, or with almost any other infection within the peritoneal cavity, will get well. Of course, there are exceptions, but we now have few deaths following operations for appendicitis, or for other forms of infection in the abdominal cavity, if we get the patient before too much damage has been done.

Edward Spidel: I have enjoyed Dr. McMurtry's paper very much indeed, especially since I have had the pleasure of seeing these evolutions in surgery. The essayist's remarks as to the extensive preparation formerly made, and especially in regard to lavage, reminds me of a paper presented by a New York surgeon at the first meeting of the Society of Obstetricians and Gynecologists in this city, ten years ago. In this paper the essayist gave an account of an operation performed upon a very wealthy woman of New York, in which the surgeons took every precaution known to surgery at that time in order to insure a perfect result. One method in vogue at that time was suturing through and through with silk-worm gut, which was done in the case reported, and the essayist stated that, upon removing the sutures on the ninth day, it was found that the entire wound remained open, and he said he believed this was due to too much asepsis—too much care in preparing the wound, and that better union would have occurred if so much of the products of Nature had not been removed.

The after treatment of operated cases should, of course, begin just as soon as the anesthesia stops, and the anesthetist should perform part of that treatment. I believe it is the custom, in this city, to administer oxygen gas after the anesthesia has been stopped. In the East, in a number of hospitals, it is the practice, after operation, to carefully cover the patients with blankets and wheel them out into the open air, no matter what the weather is, allowing them to breathe the fresh air and thus get rid of the ether retained in the bronchi. I should think this would aid in the quick recovery of the patient and lessen post-operative vomiting.

It was also the custom in former years to keep the patient upon the back for forty-eight hours,

allowing no change of position at all. Now, in ordinary cases, it is the practice to turn the patient upon the side as soon as they become uncomfortable.

In regard to feeding, in former years, after the first two or three days, water was given in minute quantities, and then after a few days broths were allowed, and so on. Now, of course, this has all been changed and there are some extremists who give their patients any kind of food desired on the second or third day.

In regard to getting the patient up early after operation, there seems to be two extremes in this respect; some surgeons permit their patients to get out of bed on the second or third day, while others keep them in bed for a much longer time.

Hugh N. Leavell: I have very much enjoyed Dr. McMurtry's expose of this subject.

I agree with Dr. McMurtry and other speakers that discontinuance of former methods of preparation of patients certainly obviates the necessity for long continued after treatment. When the bowel is over-exerted by so much purgation before operation, it becomes a ready prey to typhoid. This is really not a complication of the operation, nor does it signify impending peritonitis, but I think one of the chief reasons we have it is long continued purgation prior to the operation.

I remember that, some fifteen years ago, it was the common practice at all infirmaries, to keep an hypodermic syringe loaded with nitroglycerin and strychnia, and this was administered in nearly every case. We know now that this facilitated and hastened the production of shock in many instances. I am sure that no infirmary at the present time would use such a combination. In former times it did a great deal of damage that is not now done, because all the surgeons are preaching simpler methods, just as the physicians are coming closer and closer to Nature in the treatment of disease. Simplicity seems to be the keynote of Dr. McMurtry's paper, and I believe if we will all try to follow more closely the laws of Nature, we will get better results.

J. Hunter Peak: I have very much enjoyed Dr. McMurtry's talk on this subject. I have noted in my own experience, one point that the essayist brought out; namely, that the trend in all scientific inventions and surgical procedures is towards simplicity. I believe we all recognize the fact that a great deal of preparation prior to operation has an influence on the patient's mind, leading them to expect everything and anything that is bad, and this has a direct influence upon the after treatment. I am in the habit of being cheerful in the presence of my patient, and talking about everything but the operation. I do not mention the operation at all, except possibly to say that it is a simple matter and that they need not worry about it. If we can influence our patients' minds in this way, it will have a great deal to do with the after treatment.

I agree with Dr. McMurtry that the preparation of the patient should be as simple as possible. I make it a routine practice to send the patient to the infirmary the day before operation, give a dose of castor oil and instruct the patient to drink all the water they want up to midnight, and then operate early the next morning. They are permitted to have water as soon as they desire it after the operation. I do not think it is necessary to compel these patients to take hot water. If a patient is thirsty and vomiting, it is a very good practice, unless there is some contraindication, to give them a small amount of saline per rectum, sometimes before they leave the operating table. It will prevent thirst from coming on so early. If the vomiting continues and the patient is not able to retain liquids, the thirst can be relieved in that way at any time.

I remember the time when it was considered essential for the patient's bowels to move not later than the second day after operation. That is not considered necessary now unless the patient complains of distension, and then we can instruct the nurse to either introduce a rectal tube to let the gas pass off, or to give an enema, using just enough water to stimulate the bowel and cause it to empty itself, after which the patient will feel perfectly comfortable.

In regard to feeding, I believe that we formerly did many of our patients a great deal of harm by feeding them meat juices, soups, broth, milk, etc. When we take a person off his feet and put him to bed, he does not need much to eat, because there is not much waste, and the thing to do, if we do feed them, is to give them something they are in the habit of eating; food that will give the alimentary tract something to do. In my opinion, however, most patients, after a major operation, will do very well if they are not fed anything for forty-eight hours; they really do not care to eat. Digestion is impaired anyway because there is a good deal of nervous shock, not surgical shock, because we rarely ever have a condition of that kind now for the reason that we now know how to give the anesthetic and how to operate so as to get the patient off the table in the shortest possible time. Furthermore, anesthetists have learned how to keep the patient under surgical anesthesia without giving them too much of the anesthetic.

I think the point brought out by Dr. Speidel, in regard to plenty of fresh air following the administration of an anesthetic, is a very good one. It is our practice to put these patients to bed close to an open window, keeping them wrapped up warmly, and I always tell the anesthetist to give them oxygen before they leave the operating table.

It is a good plan, following an abdominal section, to place pillows beneath the knees, thus relieving the tension on the abdominal wall and stitches therein.

We have also learned that it is not necessary to

tie stitches as tightly as we formerly did; that it is sufficient to simply approximate the tissues. We can use animal suture material throughout, because the sutures will be absorbed quickly, while, on the other hand, silk sutures last too long. In using chromic suture material, we need not use it stronger than No. 1, unless there is some special reason for doing so. We can use No. 1 for all suturing except probably the fascia. In closing the fascia it should be done with No. 1 twenty-day.

Another thing that I think is very beneficial in the after treatment, is a properly fitting bandage. The old style bandage, going all around the body, we discarded many years ago, as well as the old plan of covering the wound with a lot of gauze, thus making the patient uncomfortable. We now use four or five thicknesses of gauze, about two inches in width, to cover the abdominal incision, and then cover and hold it with adhesive plaster, passing well over on the other side. Then, if for any reason we desire to change the dressing, with a pair of scissors we can split the adhesive plaster over the dressing, turn it out and put on a clean one and pin the edges with safety pins. In cases where drainage is necessary we may have to use a bandage.

In regard to position, I believe that changing from one position to another has a very good effect upon the patient's mind. If they do not feel like lying flat on the back, put a pillow under them, or change the position slightly to one side or the other, and thus give them some rest by changing the center of gravity.

Jno. W. Price, Jr.: I have very much enjoyed Mr. McMurtry's paper. The subject of after treatment is one in which we are rapidly making progress. The essayist spoke of using a small amount of drainage now where we formerly used a large quantity. One striking change that I have noticed is that, as a rule, drainage is not left in the wound as long now as it formerly was. When I began my surgical practice some five or six years ago, it was the custom to leave practically all drains in position for seven to ten days; now it is exceptional that a drain is allowed to remain as long as seven days, and in the majority of cases they are removed in 72 hours, or by the fifth day at the latest.

The question of the preparation of the patient with a view to simplifying the after treatment brought to my mind the use of tincture of iodine in preparing the skin, in which I have been very much interested. Recently a German surgeon reported that out of 70 cases of all varieties of appendicitis prepared by this method, he had six cases of post-operative ileus, whereas, in a former series of 300 cases, in which soap, water and alcohol were used in preparing the skin, only three or four cases of post-operative ileus developed. I have been doing some experimental work along this line on dogs. I have under observation at the present time a number of dogs that were op-

erated upon some time ago. They were simply taken from their cages, without any preparation at all, put upon the table, the belly swabbed with tincture of iodine, some abdominal operation done and the wound closed. It is my intention to open up these dogs, after a period of three or four months shall have elapsed, and see whether there are any post-operative adhesions. None of these dogs developed any symptoms of obstruction, but it will be interesting to learn what influence, if any, iodine has in the production of post-operative adhesions.

F. T. Fort: I have enjoyed Dr. McMurtry's paper very much indeed. His comparison of the progress of surgery to the difference between the small locomotive of the early thirties and the large one of the 20th century is, I think, very appropriate. Since I graduated, seventeen years ago, we have abandoned oxalic acid and potassium permanganate for sterile water and alcohol. Before that we used soap and a sponge, and used silk in the abdomen, usually tied too tightly, and often very serious complications resulted. Now we have discarded practically all these things for simpler methods.

There are three things which I think are more important factors in post-operative convalescence than anything else; namely, anesthesia, better preparation of suture material, and the use of rubber gloves. A few years ago, before starting for Europe to take up some post-graduate work, it was the custom to wash out the abdominal cavity with water, and a good many operators were operating without gloves. In Europe I found that they were not only using rubber gloves, but wore masks to keep the respiration from contaminating the wound, furthermore, that they were in the habit of closing the wound without irrigating the cavity with water. About a year after I came back these methods were adopted here, and since we have discarded the use of water our patients do much better.

I think it is essential to have a thoroughly reliable anesthetist, one who understands the shock ratio of different tissues, and how to keep the patient under surgical anesthesia without carrying it to the point where there is more or less profuse narcosis.

If anything is to be given to move the bowels, I believe that an enema, with the addition of a little eserine hypodermically is beneficial. Possibly a little adrenalin will help to stimulate the patient's blood pressure.

Pepsin in the Urine from the Standpoint of Diagnosis.—Strauss has examined the conditions in regard to the pepsin in the urine in twenty-three patients with carcinoma and twenty-two with non-cancerous aepsia. The result of his research demonstrates that too many factors are involved in the output of pepsin in the urine for it to have much specific diagnostic importance.

ELECTRO-THERAPEUTICS.

By JNO. J. MOREN, Louisville.

Electricity, that wonderful force which Marconi used in transmitting messages to the middle of the sea, which Edison used in his construction of a machine that would reproduce a song, etc., which Bell utilized in talking from Atlantic to the Pacific, that wonderful force which is the marvel of this day and no one is able to venture an opinion what will be accomplished by this force in the future.

Such is the position of electricity in the industrial field. Unfortunately it has no exalted position in medicine. However the doctor must give it credit for one favor, that is, it has furnished a better and more convenient light.

Soon after the discovery of electricity it was used as a remedy for various diseases. The church men opposed its use, but it's mystery and the claim of the charlatans launched it as a cure-all. From that time to the present, electricity as a therapeutic remedy has been rocking upon troubled waters. Some waves have been favorable, others have not. The over-enthusiast leads it to disfavor, the over-conservative does not restore confidence. The greatest drawback to electro-therapeutics has been, and is, the charlatan. It is astonishing what electricity is claimed to do. However, every branch of medicine, and the respective specialties have to suffer from the exaggerator and the money fiend. The laity believe that electricity can do anything. The electro-therapist has calls to remove hair and to restore hair; reduce flesh in obesity and develop the bust; remove wrinkles and improve complexion, and to cure all forms of diseases that the human body is liable to be afflicted with. It is utterly ridiculous to claim for electricity that which it cannot accomplish. It is deplorable to think how often it is used as a mere graft. It is indeed, hard to hold your tongue when patients tell you that they have had electricity and find out that the doctor has used a simple mechanical vibrator, etc. Personally, I have tried to use electricity for its real value and to avoid any enthusiastic claims, and results mentioned in this paper have actually occurred in my practice.

Electricity is regarded as a stimulating, sedative tonic. It is accused of that peculiar effect of causing a normal functional activity. If there be over or under glandular action it seems to favor normal function. A remedy which causes heart and respiration paralysis in large doses, ought to a greater or less extent, influence these functions in small doses. The various currents do influence circulation and respiration. It will cer-

tainly influence pain, and does influence nutrition. This effect is noted in delicate children who thrive under its administration.

The muscular system is distinctly affected, electricity being one of the few means of contracting a muscle even against the will. In addition you have a chemical effect as well as transposing substance from one pole to the other; cataphoresis, and electrolysis. Being a measure affecting so wide a range of symptoms, it is recommended in a great variety of diseases, but, as with other flexible remedies, it falls short in many instances.

Quinine is a good remedy, often used and often abused. If unsuccessful, do you condemn it? Electricity is a good physical measure, often used, often abused, so why condemn it?

ORGANIC NERVOUS DISEASES.

No reasonable man would expect any measure to restore wasted nerve cells. In destructive diseases of the nervous system, it is not a question of restoring functions, but to hold off loss of function in the progressive diseases and improve the remaining function which is impaired by the destruction of neighboring parts.

Take the common disease, locomotor ataxia. Any measure which will favor the nutrition and check the progress of the ataxia, is as valuable to this man as the knife is in cancer.

Can electricity affect this nutrition? I am satisfied that cases of tabes and chronic myelitis, have been favorably influenced. Not all, but a sufficient number to warrant its use until you are convinced that there is no effect.

In diseases like polio-myelitis, hemiplegia, etc., it is a question of improving the impaired function. The nerve supply to groups of muscles does not come from one segment of the cord; consequently, in many polio cases all muscles are not totally paralyzed, and by means of electricity and massage these muscles are developed to a better advantage.

Another side. Suppose you have a gummatous thickening of the meninges that refuses to respond to medicine. Many authors believe by the use of the galvanic current, which has a better penetrating power, you can stimulate this mass and thereby obtain results from drug treatment.

One often hears, "when you begin the treatment of electricity it has to be continued." This is absurd. The only explanation of such a statement, is the chronicity of the affection, and the patient still hopes for relief.

One advantage in all these cases is the temporary relief of the many troublesome symptoms. Those who experience such relief are grateful and satisfied that they do not have to resort to drugs which so often lead to bad results in chronic diseases.

PERIPHERAL PARALYSIS.

In ordinary cases of neuritis with paralysis, I am satisfied that results have been accomplished quicker by the use of electricity than without it. In fact I have had cases, as Bell's palsy, musculo-spiral, etc., under my observation that were slow and practically failed to respond to other measures, that improved promptly after electrical treatment.

If a motor nerve is destroyed by inflammation or otherwise, atrophy of the muscle will follow. The object is to maintain the nutrition of the muscle as far as possible and stimulate the growth of the nerve. Massage will help maintain nutrition, but by means of the galvanic current we can stimulate the muscle to contraction and thereby help the nutrition better than by massage, and in addition stimulate the nerve regeneration and hasten progress. No other remedy can replace the effect of the galvanic current in the treatment of these cases.

PAINFUL CONDITIONS.

It is a physiological fact that nerve irritability can be influenced by the electric current. The positive pole of the galvanic is sedative and diminishes nerve irritability and the pain carrying qualities of the nerve. The negative pole increases nerve irritability. The faradic current has practically no chemical effect and does not produce electrotonus as does the galvanic, however, being an interrupted and alternating current, the impulse or waves cause fatigue of muscle and nerve tissue, and for this reason, lessen pain. The effect might be compared to that of a vibrator. The static, especially the interrupted static, does have a marked influence over pain. Any of the currents can be used in the treatment of simple neuralgia or pain arising from various conditions with more or less influence, varying according to the cause and the pathological condition.

During the course of the year I meet many painful conditions, simple neuralgia, muscular rheumatism, herpes zoster, painful shoulder, sciatica, etc. In the treatment of sharp pain as in simple neuralgia, I prefer the positive pole of the galvanic. I have seen most satisfactory results from the galvanic in herpes zoster. In the treatment of painful shoulder, I have had the best results from the interrupted static. The static breeze and sparks are very useful in muscular rheumatism. In the treatment of rheumatism, gout, etc., I have never obtained sufficient results to use electricity in any of its forms. Many of the cases have been referred to me for treatment, but I rarely use it except, with the object in view to satisfy the patient that it is of no value.

In patients who are under treatment for

other conditions, who had the small acute Herbedin nodes, I have applied the static sparks with results in some cases, but in those that were confirmed rheumatics, and whose joints were permanently injured, no relief has followed. The muscular wasting from non-use following rheumatism, can be improved and give the patient more power.

GASTRO-INTESTINAL DISEASES.

In the *Boston Medical and Surgical Journal*, April 6th, 1911, one of the most prominent surgeons in the west, makes the following statement in reference to gastric ulcer: "Among the protean manifestations of neurasthenia, stomach complaint is the most common. This group of cases has given rise to many fads in medicine. Eminent gentlemen have asserted that no case of gastric ulcer should be operated upon until the patient had had his eye-strain corrected. Authorities stated that gastric ulcer was more common in women than in men, and that distress in ulcer followed at once upon eating. Osteopathy, Christian Science, walking barefoot through the grass, Lydia Pinkham's remedies, and Pierce's, as well as our own favorite prescriptions, and that time-honored fad, that loaded-dice and shell-game of the medical profession, "electricity," all achieved about the same results in the treatment of these conditions." If I have been rolling loaded dice or operating a shell-game, my apology is that I did not know it, at least the authorities have not closed my shop. I do not believe that such a statement should go without challenge, and coming from such a source it is bound to affect medical opinion.

Success in one line of medicine does not entitle one to make unjust criticism of other departments. The electro-therapist has equal right to accuse this surgeon of being a butcher.

No conscientious man would claim to influence gastric ulcer in any of its forms by electricity, but how about those atonic conditions with their long train of symptoms which may lead to ulcer? Is it not rational to use the electric current to restore that lack of tone? Many authorities believe that it does have such an effect by influencing both the voluntary and involuntary muscle fibres. There is no doubt in my mind, but that many gastro-intestinal troubles, particularly the atonic, are materially benefited by the electric current. I unhesitatingly advocate it as an adjunct to other appropriate medication directed to the particular ailment. The reaction or effect upon the circulation produced by the static has been of material help to me.

FUNCTIONAL DISEASES.

In functional diseases electricity is at its

best. In most instances the basis of the trouble is a disturbance of nutrition, and the effect is particularly noticeable. Take that great class, neurasthenia, with cold hands and feet, irritable and restless sleep, rapid and irregular circulation, vasomotor disturbances, in fact that large group of symptoms dependent upon nerve weakness and irritability. By the judicious application of electricity and appropriate tonic medication, you not only influence their misery temporary, but favor their nutrition permanently. So often have I seen improvements in sleep, relief of their parasthetic headache, better digestion, then better strength and stability.

Not all cases of hysteria should be treated by the lash. Remember that metabolic changes, as in anemia, changes of life, etc., often bring out an emotional disturbance, resembling profound hysteria, that responds to treatment directed to improvement of nutrition.

I like the static in these cases, but results can be derived from general galvanization and faradization. One point which I have noted is that patients assimilate iron with better results while taking the static current. Not all by any means, of these morbid necroses and psychoses respond. Heredity and environment must be considered before condemning the results of any remedy. However, in any nutrition disturbance, electricity can be used.

This large class of functional disturbances bring up the psychic effect of electro-therapeutics.

It is with regret that so many people look upon the effect of electricity as purely psychical. There is no doubt in the world that it can be used as an agent to influence the mind. Do we not give bread pills and simple remedies just to satisfy the patient? Do we not give remedies expecting little effect, hoping to keep the patient under observation until we are able to satisfy the patient that he is or is not curable. What few remedies can be used with less harmful results than electricity, and at the same time have a psychic effect? I deplore the fact that a number of physicians possess elaborate electrical outfits in their offices with the sole object of increasing office practice, without a conscientious intention of following the rules of electro-therapeutic practice.

The results obtained under these influences will be disappointing, and the batteries will be stored in the attic, and the doctor will condemn electricity. I have used electricity for the psychic and in many instances I depend upon the psychic effect absolutely. Again, I use it as an agent or means to have the patient report to the office that I might help influence his condition by explanation

and teaching; that he may become more self-confident, less introspective, in fact, know "where he is at." When used in hysterical conditions or morbid psychoses as a remedy, or as a means to influence the patient to the good, it is legitimate practice, but to be used as a means of fattening the pocket-book, is an injustice to the patient, and causes the profession to lose confidence in it.

A great variety of diseased conditions from sprained ankle to diabetes, have been referred to me by my doctor friends, with the hope that electricity might offer them some comfort. Frequently I have used it with results satisfactory to those concerned, but in most instances the treatment is discouraged. Should I follow the tactics of the charlatan, I could more than treble my practice, but money is not all. My policy has been, and I ask you to remember its effect is limited, but the results are sure within its restriction.

The wonderful claims made by the charlatan should not be used against the conservative doctor.

DISCUSSION.

W. F. Boggess: Dr. Moren has given us a most excellent paper. Electrotherapy has a positive place in medicine and it should be used for what it is capable of doing. The reason it has been so much condemned is that it has fallen largely into the hands of charlatans and quacks, and because, as Dr. Moren has said, it has been used for the purpose of producing revenue. Any man who depends upon medicine alone for the treatment of disease is not a competent doctor. The various extra-therapeutic measures, such as electrotherapy, hydrotherapy, etc., should be employed when indicated, but no man should use them unless he knows positively the indications for their use. Even admitting that they only do our patients good psychically, they are worth while. If we can cure our patients of imaginary troubles by the use of electricity, hydrotherapy, massage, suggestion, or what-not, it is just as much our duty to employ these measures as to give them remedies for actual disease.

The paper is a splendid one, and if I would have any criticism to offer it would be that Dr. Moren has been a little too conservative in the limitations he places upon this measure.

J. Rowan Morrison: The subject of electricity is a very interesting one. Electricity is a vital force; it is very essential to life. In one respect they are similar; we know something about life and we know something about electricity, but what either of them really is we cannot say. However, electricity is a vital force, and it does produce an effect upon the body. Therefore, if it be properly used, I believe that in many nutritional conditions it will do much good. That electrotherapy has been more or less discredited we all know; but I believe that if the charlatans

and quacks would take it up as actively as they have electricity, they would bring discredit upon even an agent like castor oil.

Not only should we know when to give electricity, but it is also essential to know how to give it. A certain amount of skill is necessary in giving electricity, just as in administering other measures; for instance, one man may give a patient digitalis and make him infinitely worse, while another man may administer it in such a way as to do the patient a great deal of good. The same is true of electricity. I have seen patients whose symptoms had been made worse by electricity go to men like Dr. Moren and be relieved by the same measure, showing, to my mind, that we must not only know when to use it, but how and in what doses it should be administered.

Andrew Sargent: I wish to thank Dr. Moren for his most excellent paper. I am very skeptical, personally, as to the beneficial or curative powers of electricity. We can only consider the claims for any measure in the light of results obtained, and the results from electricity in the hands of the general practitioner have been very disappointing.

The essayist did not mention the use of electricity in narcotic poisoning. I believe one of the most valuable purposes to which I ever put a galvanic battery was in a case of morphine poisoning. I remember one case in particular, which I wish to cite because the termination was rather funny. This was a brother practitioner who in an attempt to commit suicide, took an enormous quantity of opium, and, in addition a large quantity of belladonna, and when I saw him he was thoroughly narcotized, being perfectly unconscious and his extremities were cold. First I pumped out his stomach, and then placed him in a tub of hot water to keep him warm. Then I fixed up the battery, and when I got it working good I applied it to him, and when his consciousness began to return he imagined that he was in the lower regions. This impression was so strong that, upon looking up and seeing his wife, he cried, "Are you here, too?"

N. D. Abell, Princeton: I have had some little experience with the static machine, and it seems to me that the general practitioner's greatest trouble is due to the fact that he does not understand electricity; if we understood it more thoroughly I believe we would derive more benefit from it. I have used a static machine for a number of years, and I have gotten some good results from it.

Curran Pope: This paper deserves commendation. Dr. Moren left out one important point, which I am sure was simply due to a lapse of memory; that is, the value of electricity as a diagnostic agent in all peripheral lesions. It is astonishing how often we can not only diagnose the condition and its location, but very frequently we can prognosticate how long the

trouble will continue simply by the varying reactions of the current. It is essentially the nearest approach to a scientific electrical diagnostic agent in these lesions that we have at our command.

The main difficulty that I have found in connection with the application of electricity is that most men do not seem to appreciate the value, quantitatively or qualitatively, of the various currents. I think that, in most surgical conditions, the surgeon has a very rational idea of the value of the various procedures that he employs, but my experience has been that the **average practitioner** seems to have the idea that electricity is a very adaptable body that can be made to fit both a square and a circular hole at one and the same time. Each electrical current has its value, its place, and its use, and it **should be used only where it is of value and indicated.** The practitioner should be clear-minded and logical enough to understand, that when he uses a faradic current where a high-frequency current is indicated, **the fault does not lie in the agent employed but in his own cerebral machinery.** One certainly would not expect to check hemorrhage with a high-frequency vacuum tube; it will increase it. Yet we often see men possessing only one current attempting the impossible.

The next great difficulty is in connection with the clear differentiation of the polar responses. What pole shall I use, the positive or the negative? Gentlemen, one is night and the other is day. It is one of those things a clear comprehension of which will produce results; otherwise failures. If you have hemorrhage and you use the negative pole galvanic current—more hemorrhage. If you wish the stimulating, drying influence of the galvanic current, for instance, intra-uterine, would you employ the negative pole? Not at all—the positive pole, using some pure metallic body like copper or zinc amalgamated with mercury. When one fails to accomplish results with the proper current in cases where it is indicated, he should ask himself, “Where have I made my mistake?” and not condemn the agent.

Now we hear a good deal about electricity and charlatanism. Let us see if we cannot arrive at some understanding. **Nothing of itself constitutes charlatanism; it is the method of its use.** Therefore, any agent, any idea, may be the subject of charlatanism; it bears no other relation to it than that. It is a very simple, clear psychological proposition; exceedingly so.

I think I can demonstrate to any reasonable and rational practitioner (and I have to a great many in the city of Louisville), that I can dilate the cervix without local or general anesthesia, and absolutely without pain. I have done it for a great many people, and it can be easily done. But one must know.

Now, I would like, with the kind permission of my good friend who spoke first, Dr. Boggess,

to ask him, and to ask you all, to watch out for **“this imaginary business.”** According to the latest work that is being done in psychology, there is nothing that is without its rational, well-defined, reasonable cause. Just as the laws of physics of the universe are fixed—just as the apple falls in obedience to the law of gravitation, so your mind and my mind act under just as fixed laws, and your response and my response is determined exactly by what exists, and not by any “imaginary” condition. So much is this so that Jung and the Zurich School have determined that even the wildest ravings of a lunatic are **determined**, are governed by actual fixed psychological laws. Therefore, I say to you, watch out about calling **anything** imaginary. It may look that way on the surface, but when you consider that the **conscious life of an individual is the smaller part of that individual's psychological make-up, you will realize that you must be exceedingly careful as to what you call “imagination.”** Freud has lately demonstrated, in a masterly work, that even the play of children is absolutely based upon determining factors that enter into the individual's life history, and that even in choosing numbers, as has been lately shown by Jones, psychological analysis will reveal that the number chosen by the child is predetermined by certain factors in that child's life.

Hysterics are not so everlastingly suggestible. Freud and a great many other workers have abandoned hypnotism, because they found it so difficult to succeed in a large percentage of cases. Now, gentlemen, these are facts which any of you can go to the literature and verify for yourself. The hysteric is not such a simple and suggestive individual; on the contrary, as a rule, the hysteric is really one rather unsuggestible. If she were so easy of suggestion cases of hysteria would not hold on so long and be the **bête noir** of the profession. There is piling up page upon page and volume upon volume of literature to bear this out. The ideas we have heretofore entertained about people and things will have to undergo reconstruction, and this is particularly true of the idea that electric currents act through suggestion. Many individuals who have been terrorized, at first, have received benefit from electrical treatment in spite of their terror. That certainly is not suggestion. On the contrary, we find that the doctor can frequently persuade a patient to accept the treatment in which he has no faith; he accepts it under protest, and yet receives much benefit.

A great many symptoms of hysteria are the result of previously existing trouble, and it is in these cases that the greatest benefit is to be obtained from hydro, electro and mechanotherapeutic and similar measures. The patient is benefited simply because there was actual trouble before the psychic state of the individual pounced upon and used it. We must try to keep absolutely clear in our minds the condition we have

to meet—the patient herself or himself, and keep absolutely clear and distinct the physiological action—what can be accomplished by the current on one man but not on another, and by bringing those two together in a rational, clear, sensible way, we can get results.

A lady walked into my office this morning and said: "Doctor, can you cure my hearing by electricity?" I replied: "No, Madam, and I won't try it; I do not think it can be done." I gave her a letter to an eye, ear, nose and throat man, and told her she had better go to see some good specialist along this line, and that my advice would be not to have the electric current applied. There are some things that it is wisest not to start. A man of experience knows those things and cuts them out at the first chance. I think it would have been a mistake to have started to do anything in this case. I do not know what is the matter with her, but I do know that some of the greatest failures of some of the best men have been in connection with deafness. That is a problem for the man in that special line of work, and not for the electrotherapeutists in any sense of the word. I take it that electrotherapy occupies no other position than does diet, fresh air, hygiene, drugs, mechanical vibration, exercise, resistive movements, psycho-analysis, psychotherapy, etc.; it is one arm of an octopic therapeutic process, and the man who looks upon it in any other light certainly does not understand electrotherapy. There are certain cases that are benefitted by electrotherapy; there are certain cases that are benefitted by this, that and the other, and I will venture to say that there are exceedingly few doctors, who make a special study of this line of work, who venture to depend upon it alone. We must never forget the diet, exercise, drugs, etc.; never be a one-sided fellow. A man must be like the diamond, many sided, reflecting rays of light from all his surfaces; being open, like the diamond, to receive the light, and spreading it to his patients as the diamond does to the world after it is cut and set. Whenever you take that position, whenever you consider that you have in electrotherapy an agent, just as you have a *materia medica*, let us say, and that you intend to use your drugs and your electricity and what-so-ever-you-choose in the treatment of your patients—whenever you come to look upon it in that light, and to regard it as it should be regarded, as your handmaiden that you are trying to utilize to cure your patients, you will get away from a great many foolish ideas. I am sorry to say that many men are like a distinguished gentleman who read a paper before this society, and stated that he had used Bier's hyperemia and was exceedingly astonished to find how mistaken he had been in his ideas regarding that treatment after he had begun to use it right. Some of you who are doubtful and skeptical should stop and say, "I don't know;" ergo, "My opinion is not worth anything." That is the only conclusion

one can come to. I don't know Sanskrit; therefore, of what value would my opinion be in connection with the translation of a Sanskrit stone? What do I know about the written language of Memnon? Nothing. I let it alone. My advice to any man is that unless he knows and understands electrotherapy, let it alone. It is not altogether the charlatan who has blackened the fame of some therapeutic measures; it is also the physician who **don't know**. Gentlemen, the truth may be disagreeable and unpleasant, but sometimes when we are told the truth it acts as an incentive to the acquirement of more knowledge and does a great deal of good. If those who do not know and want to know will turn their faces to the East and try to gather a little light, I think they will find, just as I have told you, that electrotherapy has its value, its use and its place.

John J. Moren, (Closing): Gentlemen, I teach the subject of electrotherapy to the students at the college, and I have a most ungodly hour—from five to six p. m., when everybody is hungry and wants to go home, but in spite of this I have an average attendance of from 80 to 90, and I think that is a very good attendance for such an hour and such a dull subject. These boys evidently feel that they should know something about electrotherapeutics. I do not know whether it is because they really wish to learn every branch of medicine, or whether they simply desire to get by the State Board, but anyway they come. One of the first things that I try to impress upon these boys is that, whenever they hear a man say that there is nothing in electricity, to ask him whether he has ever used it and, if so, how long. Nine times out of ten you will find that these men have either had no experience with electricity at all, or that they have a small battery which they have used two or three times, and being too lazy to keep it in order, have shoved it to one side and then gone about condemning electricity. I am satisfied that they do not know whereof they speak. However, one of the best men in Louisville claims that electrotherapy has no value, and to him I say that my office is open, and if he will bring a patient there with a condition that is apt to be influenced by the electric current, I will demonstrate to him that it will do good.

One great fault in connection with the use of electricity is that some men go ahead and use it without stopping to consider whether or not electricity can have any influence upon the particular condition they are treating.

Speaking of hysteria, I will say that recently a physician sent to me a young girl whom he had been treating for aphonia for the past six weeks, without any benefit. He had used all kinds of remedies, including iron, phosphorous, and sedatives of all sorts, scolded her, etc., but without avail. When she came to my office I noticed that she had a complexion of a greenish cast, a sort of chlorotic complexion. I started this girl on iron

in conjunction with static electricity, and I never saw such improvement in a patient's complexion as occurred in this case. In three week's time she was using her voice, her skin was clear, her eyes bright, had a good appetite, did not feel fatigued and slept well. I attribute this improvement to the use of iron which the electric treatment helped her to assimilate. I am getting so now that every time I see one of these anemic individuals, I give them iron with static electricity, feeling assured that the patient will be benefited by it.

Again, in old persons, with arterial changes, causing cramps in the calf of the leg, with an irregular, arrhythmic pulse, the results from the use of static electricity are simply astonishing. The pulse becomes regular, the cramps disappear, and the individual, instead of waking up at two, three or four o'clock in the morning, is able to sleep all night. Of course, the relief is only temporary, but it gives these patients a degree of comfort that cannot be obtained by the use of any other remedy.

I wish to utter a word of caution in connection with one feature mentioned by Dr. Pope. He spoke about stopping hemorrhage with the positive pole. While attending a surgical clinic in the East (I do not remember just where), I distinctly recall that the surgeon after removing an uterus, held it up and said: "Gentlemen, here is an uterus that has suffered at the hands of the electrotherapist." He cut the uterus open and showed that it had practically no mucous lining. Now, what had the electrotherapist done? He had used the positive pole, which hardened the tissues, contracted it down upon the electrode, and when he pulled it out he brought with it practically all of the mucous membrane. Dr. Pope's position is right; it will do what he said, but before removing the positive pole I would advise that the negative pole be switched on so as to loosen up the mucous membrane.

Don't tinker with electricity. Be sure of what you intend to do and how you are going to do it before you proceed, and I am satisfied that you will be pleased with the results.

Curran Pope: I rise to a point of personal privilege. In connection with Dr. Moren's last remarks, I will say that we can slip the positive pole out of the uterus, without switching on the negative pole, as easily as we can peel an onion, provided we know that the pole should be amalgamated with mercury before it is introduced, in which event it will not adhere to the mucous membrane. I wish to emphasize Dr. Moren's last remark—we must know what we are doing.

The Cammidge Reaction.—Weber describes the mechanism of the Cammidge reaction and states that it is a not to be underestimated sign of abnormal conditions in regard to pancreatic secretion.

SOME REMARKS ON ALBUMINURIA.

By J. ROWAN MORRISON, Louisville.

"One swallow does not make the Spring," and on the contrary I have stood on a day when the Spring was in its fullness and scanned the far heavens without seeing a swallow. The mere presence of albuminuria does not mean that a nephritis exists, nor does the absence of albumin from the urine mean that the kidney may not be seriously diseased.

Much work has been done upon the subject of nephritis recently, still the last word on this condition has not been spoken yet, and I will not try to speak it here this evening; far be that from me, I only want to bring together here some observations gathered from some of the more modern text books, by authors of repute and touch upon some recent medical papers on this subject, and then report a few cases along these lines.

Domenico Cotugno in 1770 discovered an albuminous substance coagulable by heat in the urine of persons afflicted with dropsy and diabetes. This discovery, however, only led to the differentiation between dropsy with albuminuria and that without.

Bright in 1827 brought forward his masterful papers at Guys Hospital, London, in which he proved that many forms of dropsy originate in diseases of the kidney manifesting themselves by the presence of albumin in the urine. Bright, and later Rayer, covered their subject in such a masterly way that a great deal of interest sprang up in the subject of kidney disease and albuminuria, so that their work is still alive and probably all of us, until lately have found it difficult to disassociate albuminuria and nephritis. (Herrick in Nothnagle's System of Medicine remarks on the masterful presentation of this subject by Bright and Rayer).

Therefore, it was not until the later advancement of physiology, chemistry and biochemistry, pathology and bacteriology that we have learned to go beyond these conclusions and approach nearer to the truth, nevertheless considering the amount of work necessary in so large a subject and considering that in many respects many of the above mentioned sciences are just now coming into their own, it is no wonder that much remains to be known definitely about kidney diseases.

ALBUMINURIA NOT NEPHRITIC.

I want to state now that I refer in my remarks to so-called true or renal albuminuria as distinguished from false or infrarenal albuminuria due to pus, blood, semen, etc.

Physiological albuminuria. Morner has proven that albumin (serum albumin) is a constituent of normal urine in 22 to 78 mgm per liter (.0022 to .0078 per cent).

Nucleo albumin, which was also called mucin, Morner has proved to be a combination of serum albumin with substances that precipitate albumin, as chondriotin sulphonic and thus proving that the albumin precipitated by cold acetic acid is really a serum albumin. However mucin may exist in urine, but does not contain phosphorus, chemically. This disproves Von Noorden's statement that physiological albumin is nucleo, rather than serum albumin.

In the minute proportions mentioned above, albumin cannot be detected by the ordinary tests, but only by special delicate methods, however, there are many cases, especially, in the young and adolescent where albumin, often in very considerable amount, is detected by the ordinary means, and is often accompanied by hyalin casts, although these cases present none of the ordinary symptoms of nephritis. The exact cause for these so-called functional albuminurias has not been definitely settled, although many reasons are offered as to why the renal filter allows albumin in such quantities to pass.

While there is a similarity in almost all the cases of these functional, intermittent, cyclic or orthostatic albuminurias, each case or group of cases seem to present a preponderance of causes in certain directions. In all there is absence of albumin at times, they are intermittent. They are usually cyclic, however this is not altogether untrue of nephritic albuminuria. They almost always disappear when the subject is in the recumbent posture, and appear after standing or assuming the erect posture. They are almost always found in what is known in the neurotic type, but by no means always. They are not associated with serious changes in heart or circulatory system. Only the ordinary excitability of the Cor Jeevenum of Krehl usually being found, and in almost all cases the albumin entirely ceases to appear as the patient grows older, and leaves them none the worse.

The condition is most frequent between five or seven to twenty-five years, and centers especially about puberty. It is much more frequently observed in males, however it is probably more frequent in girls than is supposed, and only overlooked because they are not studied in this direction. Rapid and inordinate growth has a large determining influence according to Goodhart. He took the average weight of 124 cases. Forty-eight were under average, 76 over, and many very much so. Taking height, 106 cases, 23 only were under average height and several of these had grown rapidly lately. Eighty-three over the average height, some as much as three to eight inches.

Posture plays an important role, as most

frequently the urine passed before arising or just after arising has no albumin whereas that passed in midmorning after the subject has been standing may be full of albumin. However, this is not invariably the case, as Senator notes cases where there was more albumin in recumbent posture than in erect. In regards the effect of posture in the production of albumin, the observations of Jehle as to the effect of lordosis either as a disease process or produced by kneeling in a certain way are interesting.

Dr. F. Parks Weber, noted lordotic cases in which albumin could be made to appear while the patient was lying in bed by placing a bolster under the small of the back.

Senator remarks that the upright position tends to retard the flow of blood in the ascending vena cava and its tributaries thus producing somewhat of a stasis in the kidney. Henderson and Krehl have shown that slowing of the blood current in the kidney tends to produce an outflow of albumin.

Overexertion is often the cause of albumin in the urine, and especially that form of exercise where the subject is sitting and using the lower extremities, especially as rowing, bicycling, etc., although it sometimes appears in prize fighters, and long distance walkers.

Dr. William Collier, of Oxford, speaking of athletic albuminuria said he thought he would really find out what happened in rowing, so he made arrangements to get the urine of many of the college crews. One hundred and fifty-six cases were examined who were in training for the Lent races. He used the cold nitric acid test. Out of 156 men, 130 had albumin in the urine, some in large quantities, some only a small amount. In 1907 he took the urines of five crews that had actually raced. Every one of forty men examined was passing albumin and many passed casts, some of which he believed were granular casts. He believes the albumin due to a passive congestion of the kidneys. The albumin usually disappeared in five to six hours after the race. The urine of runners frequently contains albumin. In 38 reports by Dr. Collier, 37 contained albumin.

That the albumin is not the result of irritation due to the end products of muscular exercise seems to be shown by Dr. Collier's reports in examining the urine from eleven men who had just completed a 24-hour walk, none of these having gone less than 100 miles, one a man 66 years old. In only three instances was there albumin, and then in only small quantities.

DIGESTIVE ALBUMINURIA.

The ingestion of large quantities of heterogeneous albumin as egg albumin or milk (cows) albumin in too large quantities will

produce albuminuria. Goodhart says that he does not believe posture alone will produce albumin, but posture plus breakfast will, especially as in the class of cases this trouble is found, the digestion is liable to be faulty and the proteids not completely prepared when they reach the kidney filter.

Cold baths and falling into and wading in cold water are not infrequent causes.

EMOTIONAL CAUSES.

That the deeper emotions, as grief, fear, etc., can produce albuminuria is noted by Senator, Krehl and many others.

Dr. H. G. Armstrong, medical officer at Wellington College, remarked: He did not think it was recognized how frequently extreme emotion, especially fear would cause albumin to appear in the urine. If the urine of extreme micturition which attacked a boy when about to receive a promised flogging, could be examined he felt sure albumin would be found in it. He knew of many cases where it was.

BLOOD PRESSURE.

Ebel, and later Hooker and Erlanger state this form of albuminuria is associated with marked change in blood pressure. Oliver denies this.

Dr. Armstrong took the pressure of boys on the day before they went on long distance runs, and then an hour and a half after the run. If there was lowering of pressure there was albumin. Albumin continued as long as there was lowered pressure. In some of the marked orthostatic types he (Armstrong) found that instead of the pressure rising on assuming the upright position it dropped 10 to 15 mm.

After all the real cause does not seem to lie in any one of these conditions, but frequently in a combination of many or all of them. I am convinced that there is much truth in what Dr. Goodhart said in summing up his paper on "The After Histories of Cases of Albuminuria Occurring in Adolescence," read before the Royal Medical Society. "My own explanation, as I said in my opening is; not that they are albuminurics; not that they are cases of low blood-pressure only, but that they are machines with their petrol exhausted, their nervous energy all gone for a time; and these unnatural signs are an indication of the upset of function caused thereby."

"Adolescent albuminuria is largely an affair of growth and development. Not entirely so, for I am sure, with Dr. Armstrong, that an emotional temperament is often behind it. These things, I take it, act upon and lessen vasomotor control and link up the condition with such phenomena as flushing and blushing, a poor circulation as it is called, and blue hands and blue brains, and with—not renal

disease—but that large subject of angio-neuroses and intermittent claudication suggested in my opening."

As regards the frequency of functional albuminuria Dr. Armstrong believed that if a urinary census were taken of a large public school like Wellington College, where there are 500 boys, 15 per cent would be passing albumin. Dr. Clement Dukes from Rugby School reports that in eight years he had made a physical examination of 1000 boys entering the school, and of boys between 13 1-2 and 14 1-2 years 157 were passing albumin.

WHAT IS THE RESULT OF SUCH CASES.

Krehl says, "So far as I know, it has not been definitely proved that a single case of this form of albuminuria has ever become transformed into a true nephritis. I have observed a number of such cases myself over long periods of years, and have yet to see such a transformation, and I am therefore personally inclined to regard these as relatively harmless. Yet more time must elapse before the prognosis of this form of albuminuria can be definitely settled."

Goodhart says, "Albuminuria of the adolescent has no sinister effect upon health, or upon the duration of life, and that with due circumspection such cases ought not to be excluded from the advantages of life insurance, or from clerkships in banks and other public and private offices.

Senator does not hold such a hopeful view and does not allow such latitude for physiological albuminuria.

I believe that the insurance companies in this country will admit this class of cases now if they can show three consecutive negative specimens after one positive.

We must not forget that true nephritis often exists in the young and adolescent. Here the symptoms are more pronounced and most frequently there is evidence in the cardiovascular system.

Tuberculosis of the kidney may manifest itself by little else than an albuminuria, caused by a localized tubercular nephritis. Here a diagnosis can be made by examination of urine for tubercular bacilli, and its injection into a guinea pig.

TREATMENT.

Treatment consists largely in not treating them, but showing the way to proper development. They should certainly not be treated like nephritics.

NEPHRITIC CASES WITHOUT ALBUMIN.

We now pass to the opposite side. All competent observers know how often a severe chronic nephritis may exist without a trace of albumin or casts. It is true that most of these cases will show a trace of albumin and a few or many cases if careful prolonged examina-

tion is made for a long time, however this is often not feasible or not done, and a bad nephritis is overlooked. So one here, to do his full duty must make a most careful general physical examination, and when possible supplement this by some of the tests for renal insufficiency. Symptoms in the different systems taken alone may not mean much but thoughtfully and carefully taken together after allowing us to make a diagnosis of nephritis where there is no albumin or casts present.

The cardio vascular system gives us our most valuable symptom. An enlargement of the heart to left with an accentuated second sound, and gallop rhythm does not mean nephritis, but taken in conjunction with its usual accompanying high blood pressure and its concomitant symptoms, it must be explained on some other basis, before we can exclude nephritis. Examination of the retina with an ophthalmoscope often gives signs of vascular changes early in such cases, although many severe cases do not show signs there. Vertigo must not be overlooked nor numbness in the extremities and cramp and pains in the calves of the leg. The nephritic is always anaemic, and in many of these chronic cases the blood picture takes somewhat the chlorotic picture. Oedema, even though very slight is a valuable symptom. Itching, nausea and vomiting, and chronic cough must be investigated and explained.

Increased urine and increased frequency of urination should be studied in relation to other symptoms.

None of the above detailed phenomena alone mean nephritis, but taken together or in groups or when not to be explained, must at least cause us to place the kidney under suspicion. Many tests, chemical and physical have been devised for determining renal sufficiency or insufficiency. Suffice it to say they have not been very successful so far.

The determination of the urea in a single specimen is of no value at all.

Cryoscopy or determination of the freezing point of the urine is of very little practical value as the freezing point of urine varies so much normally. It is of value when the urine from the separate kidney is compared or when taken together with the freezing point of the blood. Here the trouble is very great.

RENAL PERMEABILITY.

It has been recognized for quite a while that certain drugs and some of the normal constituents of the urine are not so readily eliminated as in health.

Methylene blue has been used to test this permeability for some time. The color begins to appear in the urine in half an hour, and the elimination lasts for from 16 to 60 hours. In disease it may not appear for several hours,

and its elimination is prolonged considerably over the normal, or in some instances this time may be shortened. The great length of time in which the total amount of urine must be collected and the amount of methylene blue estimated make this test unsatisfactory and besides many clinical observers have shown it to be unreliable. Widál reported a case of syphilitic nephritis in which the elimination was normal, although the patient was suffering from a severe uremia. In chronic parenchymatous nephritis many observers have shown that the permeability is normal or increased.

ELIMINATION OF CHLORIDES.

If we know the amount of chloride of sodium taken in the diet of a patient for some days and compare this with the chloride eliminated we arrive at the degree of renal permeability.

PHENOLSULPHONEPHTHALEIN TEST.

Geraghty and Rountree of Johns Hopkins University have introduced this as a test for renal sufficiency. Phenolsulphonephthalein is a bright red crystalline powder, first prepared by Rensen, and has been proven non toxic in quantities in excess of amount used in test; it appears in the urine normally in a very few minutes after its injection, imparting in the presence of alkalies a bright red color. The technique in brief is as follows: Twenty minutes before the drug is to be applied the patient is given 300 or 400 cc. of water to insure passage of urine. Just before the injection is given a sterilized catheter is inserted in the bladder, then an injection of 1 cc. of fluid containing 6 mgm. are introduced subcutaneously. The catheter is placed in a test tube containing a drop of 55 per cent solution of caustic soda, and at first appearance of a pinkish color noted would indicate the time of first appearance of the drug in the urine. This ordinarily occurs in from five to eleven minutes. In ordinary cases the catheter is withdrawn, but if there be prostatic enlargement, let the catheter remain. The urine passed the first hour, and again at the end of the second hour, if taken by the catheter, the urine at these times are noted. In normal conditions about 50 per cent of the drug is passed in the first hour, and up to 75 to 80 percent in the next hour. This can be determined by a colorimeter devised by Hellige and Rountree. They have found results to be very uniform. In cases of slight parenchymatous nephritis there is only a slight diminution in the amount secreted in first hour. In cases of chronic interstitial nephritis, and in cases of uremia the time of appearance is prolonged, and the amount passed in the first hour is greatly reduced. It appears that this test will be of great service as the whole examination can be made in a very short time.

They have used this test a number of times in determining the relative efficiency of the different kidneys and claim that it works very well indeed. It appears that in this test that we have much to look forward to in the determination of renal efficiency and inefficiency.

TREATMENT.

Sparing the work of the kidneys by observing the food and drink as shown in the work of Von Noorden. Vicarious elimination through bowels and skin.

Case No. I. Young man 19 years old. Had been refused insurance on account of albuminuria. Examination of midmorning urine showed considerable sign of albumin. First morning urine showed no albumin. Never found any casts. He was nervous and very introspective. Under suggestive treatment, and more normal mode of living albumin disappeared, and only appeared occasionally. He showed no cardiac or vascular changes. He has quite recovered and has been insured.

Case No. II. A friend of mine, a physician, at fifteen albumin was noted in his urine, was cyclic and intermittent. At 22-23 years he still had albumin and hyalin casts occasionally. General health good, no cardiac or vascular symptoms. He is now 36 and tells me he has been free from albumin for several years.

Case No. III. This is a most interesting case to me. In January, 1904, he was taken ill with a pharyngitis but his temperature continued several days and he developed some abdominal symptoms I began to suspect that he might have typhoid. I examined his urine for Diazo reaction. This was positive, but free from albumin. For several examinations there was no albumin. At the end of ten days the Widal reaction was negative, but about this time albumin began to appear in the urine in considerable quantities. The urine also showed hyalin casts. The albumin continued in the urine for about a month, and the young man seemed to return to about his normal state of health. After this I examined his urine occasionally. Sometimes I found albumin, sometimes not. Midmorning specimens more frequently contained albumin than not. He went away to college. I only saw him at Christmas, and during his summer vacation. Usually at the Christmas holidays, when he first returned, being tired, the urine contained albumin in the midmorning specimen, but by the time he returned to college there would be only a small amount, and sometimes none. He went along this way, living a normal life, and not complaining of anything unusual, except that he had a sluggish bowel, considerable intestinal putrefaction with the urine showing large amounts of indican. He seemed to develop normally, and did not show

any cardio-vascular symptoms at all. In the summer of 1911 he came to me complaining of a considerable amount of weakness and dizziness. I found that his midmorning specimen was full of albumin and indican. The specimen taken before rising showed only a trace of albumin. Being considerably run down and having a great amount of intestinal putrefaction I decided to send him to West Baden Springs, and had him put on a low proteid diet, thinking that the free elimination there would cut down the indican, and that this might have a beneficial effect upon the albumin. He was there for ten days on the low proteid diet, and eliminative treatment. The indican almost entirely disappeared from the urine, and the albumin was somewhat reduced, even in the midmorning specimen. He returned after ten days feeling somewhat better with still a trace of albumin. He then began his usual work, which required riding a considerable distance on a motor cycle. Immediately the urine began showing large amounts of albumin. After discontinuing the use of the motor cycle the albumin was greatly diminished, being practically none in the specimen before rising. I decided to send him to California that he might lead a more out of door life and have the benefit of the bracing climate. He was there examined by one of the foremost internists of the Pacific Coast who agreed that he had no manifestation of nephritis, and that the albumin was only accidental. The patient writes me that he feels quite well, and rarely passes any albumin now.

Case No. IV. Colored man age 54, teamster. First saw this man May, 1911. He was suffering from severe attack of nausea and vomiting. First vomited food, after that a little watery fluid. Gave history of having these attacks for ten months to a year. There was no evidence of tumor in the epigastrium. Liver seemed to be normal, abdomen not distended. Apex beat in the nipple line sixth interspace, marked accentuated second aortic sound. Urine increased in amount, specific gravity 1010, no albumin, one or two hyalin casts in quite a number of specimens examined. Blood pressure 170 mm. From the history of vomiting I first suspicioned this man might have cancer of the stomach with obstruction, but as he immediately stopped vomiting on eliminative treatment I gave up this idea and placed him on a course of elimination for several months. He had no return of the trouble until September, 1911. During this time I made a number of examinations of the urine and found once or twice a very faint trace of albumin, and a few hyalin casts. He was still passing large quantities of low specific gravity. After extremely arduous physical exercise under stress he was again taken with

severe vomiting spells, which continued for several weeks. Several of my friends advised that I have his abdomen opened as they suspected obstruction of pylorus, however, under thorough eliminative treatment, vomiting ceased and he began taking nourishment without trouble. I now gave him at night a test meal consisting of a large quantity of meat and a handful of raisins. In the morning I washed out the stomach and found no evidence whatever of obstruction. He has continued to improve under eliminative treatment, and I feel sure this is a case of chronic nephritis with nephritic vomiting.

(Since this paper was read I have applied the phenolsulphonphthalein test on this man. The first trace of the chemical began to appear in twenty minutes; 20 per cent was obtained in the first hour and 14 per cent in the second hour making a total of 34 per cent, which is very far below normal.—AUTHOR.)

DISCUSSION.

J. B. Marvin: Bright's disease has certainly been promoted to Captain and now ranks next to tuberculosis and pneumonia as one of the Captains of the bands of Death.

In a consideration of this subject we are confronted with three or four propositions. First, the existence, in the normal urine, of small quantities of albumin. This, I think, can be disregarded. Next, those cases grouped under the head of albuminuria of adolescence, or so-called physiologic albuminuria. That means albuminuria without other evidence of renal changes. If there is no high tension, nor granular nor epithelial casts in connection with this, it may be of little pathological significance.

In my opinion, one crying necessity along this line is the standardization of tests for albumin. As long as we have various tests, some of them far too delicate for clinical purposes, we are going to hold discordant views about this kind of albuminuria. For all practical clinical purposes, the physician needs only two tests, and he is liable to fall into serious error if he goes beyond them unless he is qualified as a chemist, and even the best of chemists will tell you that there is great liability of error in the employment of the more refined tests. The tests I speak of are, first, heating the urine and adding a few drops of acetic acid; and, second, the cold nitric acid test. If we find albumin with these tests, we can label it an albuminuria, but with the other tests we are liable to err.

We cannot go to our text-books for the latest views in regard to albuminuria, because, so far as I know, they do not contain the latest researches upon this subject. We must go to our physiological chemistry books, and to those upon higher chemistry—physical chemistry as I discussed this subject in my paper last week. I will not go into this further than to offer one other suggestion. We have three things to bear in

mind in connection with the production of urine. First, the blood, consisting of a liquid part in which are floating various cells. The cells are colloid structures, jelly-like in character. Next, the urinary membrane, or separating wall between the blood and the urine. This is a jelly-like structure composed of various colloids in a solid or gel condition. Next, the urine, an aqueous solution of various colloids.

The statement has been made, time and again, as to why we have albuminuria (and it explains some things that Dr. Morrison referred to in his paper) that the albumin does not come from the blood direct, but from changes which occur in the separating wall or medium between the blood on the one side and the urine on the other. The acid products in the blood, acting upon this cell state, liquifies it, and makes it come out in the urine as soluble albumin. Possibly by physical exercise, plus diminished oxidation, an excess of acid is accumulated in the blood which liquifies the jelly and makes it soluble, and it appears in the urine as albumin. If this process is kept up for a sufficient length of time, pathological conditions will develop.

In conclusion, I wish to show the apparatus Dr. Morrison has referred to, namely, Rountree and Geraghty's modification of Hellig's colorimeter, with ampules of phenol-sulphon-phthalein, for making easy and accurate estimation of the renal function. One objection to it is that it costs too much money, the price being twenty dollars, and, in addition one dollar for ten of these little ampules, containing one cubic centimeter each. It seems to me that it could be sold to the profession for considerably less money than that.

R. Hayes Davis: During the past year I have been very much impressed by the frequency of the occurrence of physiological albuminuria. Five distinct cases have come under my observation during that time in connection with insurance examination work, and all five of these cases showed large amounts of albumin in the urine with the nitric acid test, the rings in some of them reaching a diameter of a quarter of an inch. I watched these cases from time to time, and all five have completely cleared up. They were all in young individuals, their ages ranging between 16 and 25 years. All of these were cases that had been postponed for periods of from two to three years because of albuminuria. All of them were entirely free from albuminuria at the time of my last examinations.

During the past week I have seen two young men who were postponed, less than a year ago, for a period of six months because of albuminuria. When I examined their urine a few days ago they were entirely free of albumin.

Most insurance companies recognize physiological albuminuria to the extent that they will accept any case if three negative specimens can be procured after one positive one. They also re-

quire a statement from the patient to the effect that he has had no special treatment for the condition, although, personally, I do not believe any treatment would affect it one way or the other.

F. C. Askenstedt: I have greatly enjoyed hearing this paper.

We cannot too greatly emphasize the points of differentiation between cases of so-called functional albuminuria and interstitial nephritis, and we should use every means at our command to do so. I do not think any of us can afford to do without the sphygmomanometer. High tension will nearly always be found in the presence of a nephritis, especially interstitial nephritis, while in the other cases it is normal or subnormal.

Dr. Morrison mentioned that an increase in the quantity of urine passed is usually found in interstitial nephritis, but one point that he did not mention is that this increase is most marked in the night urine. Of course, this is not true in all cases, and, furthermore, not every case where the night urine exceeds the day urine is a case of interstitial nephritis, but in all suspicious cases the day and night urine should be collected separately and sent to the pathologist, and where an interstitial nephritis is present it will almost always be found that the night urine exceeds the day urine.

I am very glad to hear a report on the phenolphthalein test. Some months ago I read an article in the *Journal of the American Medical Association* which stated that a very minute dilution 1-6 mgm., should be used, and that the solution would not keep very well. I understand that it can now be obtained in ampoules, which makes it very much more practical.

J. Rowan Morrison, (Closing): I wish to thank the gentlemen very kindly for their remarks.

As I stated in the beginning of this paper, I did not intend to bring forth anything new; that a large part of my remarks would be along the line of work which has been taken up in modern text-books and the ideas of prominent men upon this subject. My idea was to make us think about this subject a little bit and bring it up for discussion here.

In regard to toxins, this is a rather interesting question. Take, for instance, a case where we have toxic material thrown out from a sluggish bowel, and we find a large amount of indican, and other products of that kind, but many times we will find no albumin at all, while at other times it will be present. That would be rather against the toxic theory, although I am perfectly free to admit that we have not been able to determine exactly how albuminuria occurs.

THE TREATMENT OF ALCOHOLISM.

By B. J. O'CONNOR, Louisville.

It is obviously unnecessary to endeavor to attempt to set forth to physicians the importance of the many dire and disastrous consequences which result to the individual, the family and to society at large from the abuse of alcohol. The many problems both medical and social connected with alcohol have engaged the attention of the most brilliant men both within and without the medical profession.

By alcoholism, we understand a series of morbid phenomena that are directly due to the toxic effects which result from the excessive ingestion of alcohol. There are many late or indirect abnormal effects due to excessive and prolonged use of alcohol, which, although of greatest significance, are not included under this head. The subject for practical purposes will be considered from three standpoints: 1. Acute alcoholism or drunkenness; 2. Acute alcoholic delirium, or delirium tremens; 3. Chronic alcoholism, habitual drunkenness, or inebriety.

ACUTE ALCOHOLIC INTOXICATION.

The acute manifestations resulting from the ingestion of excessive amounts of alcohol depend, upon the quantity imbibed, the amount absorbed and the length of time to which the system has been exposed to overdosage. The first stage is that of stimulation or excitement; the second, a stage of incoordination with mental incoherence; third, complete unconsciousness or paralysis. When an overwhelming dose is taken within a short time, these stages follow one another with extreme rapidity, and when the quantity exceeds certain limits, a fourth stage, death, may be added. These effects are more accentuated in some individuals, particularly the young, the weak, those of a poor physical development and those unaccustomed to alcohol. From a physiological standpoint the elimination of alcohol by the breath, even though no distinct nervous symptoms are present should be regarded as a mild intoxication since the amount ingested is more than can be oxidized in the the system.

ETIOLOGY.

In this country the custom of treating is largely responsible for most of the drunkenness. "Goodfellowship" and "sociability" lead the weak-minded and ignorant to overload their system with an intoxicating beverage. In other instances worry, anxiety, disappointment, physical or mental strain, nervousness, insomnia and other conditions induce the individual to seek in alcoholic beverages a stimulant or a sedative. Occasionally intoxicating quantities of alcoholic drinks are taken in ignorance of the amount of alcohol or the

effect thereof. In not a few cases the factors which so often lead to chronic alcoholism or inebriety play an important role in the precipitation of the acute attack. A consideration of these causes should always enter in the determination of the after treatment of the acute attack and the sole reason for omitting a presentation of them here is in order to avoid a repetition.

TREATMENT.

In acute alcoholic intoxication it is needless to say that all alcoholic drinks should be stopped and every effort made to eliminate promptly as much of the alcohol as possible. If the patient is seen early the stomach should be washed out, or emptied by means of emetics, such as apomorphine grain 1-8 hypodermatically, or a teaspoonful of the fluid-extract of ipecac in a large draught of tepid water.

Rapid elimination may also be favored by means of quickly acting saline aperients. These should be given in full doses in rather concentrated solution as they will in this manner not only facilitate elimination but also prevent further absorption. In instances where it is known that an enormous quantity of alcohol was taken the administration of a few minims of croton oil in a teaspoonful of olive oil is useful. Nature's process of elimination by means of diaphoresis may be augmented by hot packs, Russian or Turkish baths. The latter should be followed by a good massage or salt rub and the patient allowed to sleep for several hours. In acute, sthenic cases a dose of pilocarpine, grain 1-10, hypodermatically will produce a profuse diaphoresis which is beneficial.

When the patient is not quiet in two or three hours or suffers from insomnia the use of a hypnotic to produce a few hours sleep is of great importance. The choice of a hypnotic is a matter of no little moment. Drs. S. W. Rawson and G. D. Scott¹ after a study of 1-100 cases of alcoholism conclude that veronal is by far the safest hypnotic. They give it in large doses, 10 to 20 grains, in connection with teaspoonful doses of the fluidextract of ergot every four hours. Trional or sulphonal, in ten to fifteen grain doses, repeated at intervals of every two to four hours, are usually efficacious and safe. Tablespoonful doses of the elixir of paraldehyde also gives satisfactory results. Chloral hydrate is also reliable and may be combined with the bromides. Rawson and Scott show that morphine and hyosine in the treatment of the nervous disturbances of acute alcoholism are not only unreliable but also dangerous drugs to employ.

In order to sober up a patient who is only moderately intoxicated various drugs are recommended. Hennell² states that in acute alcoholism a half to a drachm of ammonium

chloride dissolved in water and given in one dose followed by a copious draught of water, will not only immediately counteract the effects of alcohol and sober up the patient quickly but will also prevent delirium and overcome the craving for alcoholic stimulation. With a limited experience the author has been unable to obtain any such results from this drug. Teaspoonful doses of the tincture of digitalis are also advised for the same purpose but beyond the emesis which follows the use of such doses no special results are apparent. A cold bath in connection with a full dose of caffeine citrate, three to five grains, will, after the stomach has been emptied give favorable results.

After an acute alcoholic spree the gastrointestinal tract is usually badly disordered and the nervous system disturbed. In some instances nausea or vomiting is troublesome. In such cases gastric sedatives, such as bismuth subnitrate, cerium oxalate, sodium bicarbonate, etc., may be given in peppermint, spearmint, creosote or chloroform water. If it seems necessary cocaine hydrochlorate may be given in association with the foregoing in doses of 1-6 to 1-4 grain. It is well to limit its use to cases in which the vomiting is very persistent or in which the vomiting has not been aggravated by dietetic errors. The diet should be limited, of a liquid and easily digested character if there is any gastric disturbance. Buttermilk, broths, bouillon, sweetmilk diluted with vichy or seltzer, and malted milk are usually well borne. Water may be allowed ad libitum. After the irritability of the stomach subsides it is usually advisable to give five to ten minim doses of the tincture of nux vomica in water three times a day. Many prefer to combine it with other stomachics, such as capsicum, ginger, cinnamon, gentian, or the compound tincture of cinchona. My personal choice is a mixture of ten minim each of tincture of nux vomica and dilute nitrohydrochloric acid in the elixir of glycerinated gentian or essence of pepsin as a vehicle. The latter should be given well diluted.

DELIRIUM TREMENS.

The acute delirious condition which not infrequently follows the excessive and prolonged use of alcoholic beverages is rather a grave type of alcoholism. Its mortality rate which varies from 10 to 20 per cent. is dependent principally upon concurrent disease conditions and the general vitality of the subject. Proper treatment also plays an important role.

In delirium tremens the patient loses all mental control, talks incessantly and incoherently, and has hallucinations which often give rise to intense horror and dread. Rawson and Scott state that here are two distinct

stages, first, a stage of insomnia, restlessness, tremor, hallucinations which are recognized as fictitious, and later a state of delirium with visual hallucinations which are uncorrected; in the second stage, the patient is very noisy, has hallucinations, which may be amusing, but are usually of a fearful character, a fever of 100 to 102 F., profuse perspiration, followed later by an exhaustion which is both muscular and circulatory.

The attack may follow an acute alcoholic debauch, or it may occur in inebriates as a result of an acute infectious disease, or a physical shock or injury. The sudden withdrawal of alcohol from an inebriate who has been accustomed to large quantities is not infrequently the cause of an attack. Ordinarily a certain amount of nervousness, irritability, tremor, insomnia and gastric disturbance precedes the onset of the delirium but occasionally it is ushered in with scarcely any premonitory symptoms.

TREATMENT. (PROPHYLACTIC).

Prompt and efficacious treatment of acute alcoholism will prevent the majority of attacks. In cases of acute illness in which there is a history of strong alcoholic addiction and in which there are any premonitory symptoms moderate amounts of alcohol should be given regularly and the use of sedatives should be commenced at the earliest possible moment. The same holds true in instances of injury. Again alcohol should never be abruptly withdrawn from the habitue. When an attack supervenes upon an acute alcoholic toxemia it is probably better to resort to eliminative measures rather than increasing the toxemia, although even in such instances some good authorities recommend that moderate amounts should be administered.

ACTIVE TREATMENT.

Rawson and Scott after a careful study of the results of the treatment conclude that all subjects in the inebriate or primary stage should be given large doses of hypnotics, preferably veronal, but never morphine or hyosine, also that whiskey be given at regular intervals and that ergot should be administered frequently in large doses either intramuscularly or by mouth. They advise teaspoonful doses of a reliable fluidextract every four hours. Lambert, another excellent authority, advises the use of 30 minim doses of Livingston's solution of ergot, hypodermatically every two to four hours:

Rx

Sterile Water zi
Extract of Ergot zi
Chloroform M iii
Chloretone gr iii

Mix and filter. Livingston's Solution.

Any reliable, aseptic preparation of ergot, may be given subcutaneously without danger, in from fifteen to thirty minim doses every three to four hours. This drug is particularly indicated on account of the circulatory weakness, the cerebral oedema or wet brain, which is an important part of the pathology, and also to prevent a pulmonary stasis and oedema. Such medication should be discontinued gradually and only after all symptoms have subsided.

Dennis' sums up the objects in the treatment as follows:

1. The elimination of toxæmia, by 10 grain doses of calomel with 20 grains of compound jalap powder, followed by salines. Supplemented later by high irrigations of the colon with saline solution. Petty urges the use of saline subcutaneously. According to personal views the use of salines is not safe unless the skin and kidneys are already actively eliminating.

2. The enforcement of sleep with sedatives and hypnotics.

3. Restraint of a mild, unnoticeable character, as a sheet under the bed clothes, in order to prevent self injury.

4. The maintenance of nutrition with appropriate amounts of milk and vichy, beef broth, buttermilk and predigested foods.

5. The alleviation of gastritis by lavage with alkaline or boric acid solutions.

6. The administration of cardiac stimulants, ergot, digitalis, strychnine, sparteine and whiskey.

7. Attention to atony of the bladder.

8. Cleansing of the teeth and the oral cavity.

Hydrotherapeutic measures, particularly hot packs or hot baths are often of great value in the sthenic types of cases. During convalescence massage, salt rubs, static electricity, and active and passive exercise are highly beneficial. If possible no case of delirium tremens should be discharged without some effort to break up the habit and to prevent recurrences which may prove fatal.

CHRONIC ALCOHOLISM—INEBRIETY.

Another highly important phase of alcoholism is presented by the habitual drunkard, the habitue who is more or less continually supersaturated. According to Dr. I. H. Neff, inebriety "is an expression of nervous weakness; used in its simplest sense, it could be called a psychoneurosis, many cases showing symptoms which are found in neurasthenic and allied conditions."

Dr. Petty, states, that it is not only a disease itself, but in many instances it springs from other diseases, and it is certain that other diseases grow out of it. The old English statutes while not classifying the habitual drunkard as an insane individual, state, that

oftentimes he is dangerous to himself or herself, or to others, and at times, is completely incapable of managing his or her affairs.

ETIOLOGY.

Petty holds that 80 per cent. of chronic alcoholics form the habit inadvertently, unintentionally and without any definite purpose in view. These, he regards, with proper assistance and treatment, as curable. In another class he places those individuals without character, drifting selfishly through the world, without rudder, compass or objective point. In a third class he includes those with congenital physical or mental defects. Petty makes a distinction between the habitual user of alcohol and the periodic or spree drinker, stating that the latter form an entirely different class which embraces four types of cases: 1. The dipsomaniac, real or symptomatic, who usually abstains for long periods and then yields to an obsession for, inordinate quantities. 2. Those cases due purely to a moral cowardice, in which the spree is sought as a refuge. 3. Those with an unstable nervous character and with bad environment and associates. 4. Those with an ever present, but usually, successfully resisted desire for alcohol with a constant bad environment. Some authorities endeavor to explain the acute deviation in certain dipsomaniacs in the nature of an epileptic attack.

Neff, in a study of over 800 cases, draws the following deductions as to the etiology: "The exciting causes are of a physical or psychic origin. Given a neurotic subject, crises may be precipitated by any marked departure from the ordinary routine of life or any psychic disturbance, or by any disturbance of organic or physical origin." "Inebriety," he states, "is prone to develop as a frank case, at the critical epoch of life, pubescence, or involution." He lays stress upon the heredity as a powerful predisposing factor. In over 40 per cent. of his cases he found a history of intemperance in one or both parents. In over 15 per cent. of the cases there was a history of defective ancestry, in the shape of insanity, neuropathy, drug addiction or tuberculosis.

Defective training and lack of character formation in childhood and early adolescence undoubtedly plays an important role in the formation of, and the inability to withstand, the habit. Faulty environments and improper associates, which oftentimes exist even in the home, are the determining factor in the early formation of the habit. The factor which is probably of greatest significance in the continuance of the habit lies not so much in extraneous matters as it does in the toxic condition of the system resulting from the abuse of alcohol and the disturbed

functions and metabolism, which result therefrom.

TREATMENT (PROPHYLACTIC).

Rigid regulation of the liquor traffic will probably accomplish more than the most ardent prohibitionist could ever hope for or desire. The treating evil should be abolished. The public should be educated in the dire consequences to the individual, the family and to society which so often result, directly or indirectly from the abuse of alcohol. The profession should emphasize, that alcohol, in no matter what form it is taken, is a drug rather than a beverage, and a rather dangerous drug, notwithstanding its free and prevalent usage. Many deductions might be made by reviewing various factors which have been set forth rather fully under the etiology but time does not permit a lengthy presentation of this phase of the subject.

ACTIVE TREATMENT.

Up to a certain point the treatment of all forms of alcoholism is alike and under this head we shall omit almost every measure of treatment which has already been mentioned. Two important factors must be constantly borne in mind in the management of the chronic alcoholic. First that the habitual demand is due mainly to the toxic condition of the system which has resulted from its abuse, and secondly that unless all of the ordinary functions, particularly those of nutrition and sleep are normal, it will be impossible to prevent relapses. Unless the patient is placed in a shape to withstand his customary amount of exertion and strain the treatment will be of little avail.

In the vast majority of instances institutional care is essential for a cure. Private institutions often obtain splendid and lasting results, but in many cases the patient can not be kept for a sufficient time in order to prevent subsequent relapses. As the formation of the habit is usually a matter of many years it follows that the active cooperation of the physician and the patient is necessary for a considerable time. In private practice, by insisting that the patient remain under the physician's care and attention for six months to a year he may occasionally be completely cured.

The state care of inebriates is a matter which has been sadly neglected by not only our own Commonwealth but by the majority of the states in the Union. That the expense of proper provisions for the care and treatment of inebriates would be more than saved within a few years by a lessening in the number of unfortunates who today overcrowd our jails, workhouses, penitentiaries, insane and other asylums, can scarcely be gainsaid. The saving to the family and to future generations

would also justify such expenditures. As physicians, awake to the importance of cause and effect, and cognizant of the obligation we owe our fellow men, we should strive to bring such matters before those at the helm of our state.

In closing, the following points on the state care of inebriates are quoted from an article by Dr. Daniel Crosby⁷: 1. That from 50 to 60 per cent. of all drug and alcohol habits are curable permanently. 2. Every state in this country is fully warranted in giving more attention to alcoholic habits than its present statutes provide. 3. That special institutions governed by a board, a medical staff and attendants, selected solely on account of their fitness, should be provided for the treatment of inebriates. 4. That inebriates should be committed to these institutions for from six months to three years on the indeterminate sentence plan, and recommitted as necessary. 5. That ample means, equipment, and provisions for occupation, etc., should be placed at the disposal of the staff. 6. That politics should not enter into the management of these institutions.

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DISCUSSION.

W. F. Boggess: Dr. O'Connor has given us a very practical paper and he has covered the management of these cases pretty fully. While it is in my mind, I would like to emphasize one fact that is not generally believed; namely, that 50 to 60 per cent. of all inebriates are curable. By that I mean that they are permanently curable; that if we will correct the nervous condition and get the man away from his alcohol, he has enough manhood and willpower left to remain permanently cured. It seems to me that there is no case of inebriacy that we should look upon as incurable. We never know what we can do with these patients—how much manhood is left in them. It should be looked upon as a disease condition, and institutional management is unquestionably the safest and best. It is a reflection upon American civilization, as Dr. O'Connor truthfully said, that so few of our states maintain hospitals for inebriates, and that the laws of some states permit them to be sent to asylums for the insane. The state asylum is no place for inebriates, unless it has in connection with it a psychopathic hospital, thus making it an institution for the care of inebriates as well as the insane.

I do not think there is any drug so little understood by the profession, with respect to its

pathologic and toxic effects, as alcohol; they are more inclined to look upon it as a palatable-pleasing liquid, made to have a good time with, and overlook the fact that alcohol is a very toxic agent. It is in no sense a food; it is a poison. Alcohol is a drug, a therapeutic agent of considerable value when intelligently used, but I do not believe there is a drug that is more frequently unintelligently used than alcohol. Take, for instance, its effect upon the stomach. Put a few drops of alcohol upon the tongue, and immediately there is a flow of gastric juice, a congestion of the mucosa and increased gastric secretion. If we give a patient a teaspoonful of cognac brandy before each meal, it increases, not only the appetite, but the digestion, but if we give him a little more alcohol we interfere with proteolysis and inhibit digestion. It will give him a false appetite, but digestion is inhibited. The effect of alcohol upon the liver cells is well known. At first it stimulates the liver cells and increases the flow of bile, but in a short time it causes fatty degeneration of the liver cells, increases interstitial hyperplasia, and produces cirrhosis of the liver. It also damages the kidney, although not so quickly, because, by the time it reaches the kidney it is so diluted that the effect upon it is very much less than upon the liver.

The effect of alcohol upon the nervous system is that of a depressant. It is not a stimulant, except possibly in small quantities and for a trifling period. It is a depressant because it depresses the inhibitory and controlling functions of the brain. Although the subject feels stimulated and warmed by it, the central nervous system is really depressed, and it has a toxic effect upon the brain.

There are certain types of fevers in which alcohol is a most excellent remedy. The oxidation of the alcohol tends to prevent the wearing and burning of the tissues in the body; therefore, in certain types of asthenic typhoid fever, alcohol does good in that it prevents tissue metamorphosis. Again, in certain types of pneumonia, I believe that alcohol dilates the superficial capillaries, throwing the blood to the surface, and does good in that way.

So, I think there are certain cases where alcohol can be, and should be, used as a remedy. It was never intended for a beverage, and it is poisonous to the tissues, just as strychnin, cocaine, and other poisonous drugs are.

In regard to the treatment of these cases, there is one simple remedy in acute alcoholism that I believe the essayist overlooked; that is, table-spoonful doses, every hour, of freshly made liq. ammonii acetate. In delirium tremens this is one of the very best remedies we have at our command.

Having read, some years ago, in one of the journals, a statement to the effect that thyroid extract was beneficial in certain cases of chronic alcoholism, I have tried it in one or two

cases, and it is unquestionably of great benefit.

When it comes to quieting a patient with delirium tremens, I think the administration of hyoscin, with a little morphin and full doses of atropin, is of value. I give these patients 1-30 gr. of strychnia and 1-150 gr. of atropin, hypodermically, every four hours, and it unquestionably carries them over the serious shock, through the crisis, and they seem to get well a little more quickly.

I long ago discontinued the use of chloral hydrate in these cases. During my hospital experience of thirty years as staff physician, I know that patients have been killed by the use of chloral and the old bromidia. I have frequently given digitalis in teaspoonful doses, and I think veronal in solution is one of the best of hypnotics.

As to the withdrawal of alcohol, it has always been a question in my mind, in delirium tremens and in chronic alcoholics as well, as to how rapidly alcohol should be withdrawn. Should we take it away at once or should we take it away gradually? I think this is a question that must be settled by a study of the individual case and the condition with which we are dealing.

Milton Board: Not longer ago than twenty-five years the medical profession, and the laity as well, were inclined to look upon two disease conditions with a spirit of levity. I refer to gonorrhea and the question under discussion—alcoholism. A good many years ago the seriousness of gonorrhea was recognized by the profession, and they have since been doing their part in educating the public to beware of its dangers. But, with respect to alcoholism, the medical profession has either not recognized the seriousness of this condition; or, if they have recognized it, they have not done their part in educating the public to prevent it, for here, as in most fields, preventive medicine is our greatest hope.

I wish to say a few words, briefly touching upon some of the points brought out by the essayist, beginning with the acute condition. I want to take issue with him here and now as to the advisability of administering ipecacuanha, or anything else that will upset the stomach, in sobering a man with an acute alcoholism. When that man is comparatively sober he is going to need a good digestive system; in some cases they need it badly. Hence, the custom of making a man, who is suffering from acute alcoholism, sick, is bad practice. It does not hasten getting him sober to any material degree, and it does interfere very much with getting a man on his feet and about his business.

Now, in regard to sedatives, you cannot go to see a patient suffering from acute alcoholism and handle him as you would a sane man. Not long ago I was called to see one of Dr. O'Connor's patients. I found him drunk, and he was an Irishman and had a head of his own. I prescribed some remedies and went back the next day.

He had not taken any of the medicine and had not done anything except what he pleased to do; so calling a cab, I persuaded and forced him to get into it and go home with me, and there I administered the remedies necessary to relieve the man. You cannot very well do that except in a place where you can control the patient.

In making a man sober who is drunk, the most important part of the treatment is to get him to sleep. From three to six hours' sleep is worth everything else so far as sobering the individual is concerned. How are we to bring that about? If the patient is in an institution, begin with a Turkish bath; if he is in a private home a hot bath will do almost as well, but when you give a hot bath, give a **hot bath**; give it for an hour, or two hours. Keep the man in the bath until he gets sleepy. I have seen patients suffering from acute mania, which is a toxic condition as is acute alcoholism, kept in hot water for two weeks with splendid results. So, in dealing with these cases and giving baths, no matter whether it is a Turkish bath in an institution or a plain hot bath in a private home, keep the patient in it long enough to accomplish the result desired.

I like to use hyoscin in these cases, generally 1-150 gr., sometimes 1-200, sometimes 1-100, depending upon the condition of the patient's heart. In a strong, sthenic case, with a good heart, I have no hesitancy in giving 1-100 gr. of hyoscin. However, it is a drug to be cautious with, especially if there is danger of delirium tremens; but combined with heroin in 1-16 to 1-24 gr., it is a remedy that will bring about sleep, and that is what we want to do. Therefore, our routine treatment of these cases is to first put the patient in a Turkish bath and keep him there a long time, then put him to bed, and almost invariably we give an injection of hyoscin in some quantity, combined with heroin, never using morphine. By this means we seldom ever fail to bring about four to six hours' sleep, and when that sleep is over we have a tractable patient, half sober, who will take a drink of buttermilk of a dose of medicine if we want him to.

As the essayist mentioned, we sometimes have very serious stomach trouble to contend with in these cases, and vomiting is very persistent. Hot water, alternated with ice water, (of which the former is the more valuable), with bismuth, and, frequently, cocaine, has a very happy effect in controlling this symptom.

In the treatment of alcoholic mania or delirium tremens, I do not think it is well to withdraw the alcohol at once. I agree with the essayist that alcohol should be continued for a time. I like to give it in the form of egg-nog, because there we have it in the form of a food and we also get the stimulating effect of the poison that brought about the condition. These patients need to be fed.

The essayist spoke of mild restraint. We

must remember that we usually have most intractable fellows to deal with, and if we are going to employ any restraint at all we must use enough to accomplish our purpose. It has been determined and now goes without question that in alcoholism we have a disease condition; we have a neurosis. Furthermore, in the vast majority of instances, it is an hereditary neurosis. That is to say, the tendency to the habit is markedly transmissible from father to son, from grandfather to grandchild, and so on. In many instances the disease is curable. The ideal institution for the cure of alcoholism should be located in the country, and should be under state control, because, as a rule, individuals cannot be kept in private institutions long enough to accomplish ideal results. Do not understand me to say that much cannot be done for these cases in private institutions, but I am speaking of the **cure** of the condition. If we had a state institution to which these cases could be committed by the court, for a stated term, many of them could be cured.

Virgil E. Simpson: I do not believe in the dietum that, because of injudicious use of a certain agent we are in danger of establishing a craving for that agent on the part of the individual, its use as a remedial measure is not justified. The value of alcohol depends upon its local action, its influence on the control nervous apparatus and finally, its food availability. If we will analyze the pharmacological action of alcohol, or carry it further, in to its toxicological influence, which is simply a multiplication of its pharmacological effects, it will not be difficult to more clearly understand the conditions that confront us when we attempt to bring about a so-called cure of chronic alcoholism. Alcohol, in common with many other derivatives of the methane series has the property of combining with the lipid substances in the nerve cells; in other words, the lecithin and cholesterin which are found in the cells are partially dissolved by alcohol; their relationships, chemically, are altered; and their influence, so far as the chemical and physiological action of that particular cell is concerned, thereby changed. This is common. I say, with all the hydrocarbon group. Now, when the amount of alcohol is continued, or the percentage of concentration increased beyond the pharmacological limitation, the cells materially change their chemical makeup, which can be demonstrated by staining the cells, which show a diffuse coloration of Nissel's granules instead of the grouping in highly colored spots and areas as found in normal cells. In addition to this, the dendrites are also affected by the action of alcohol, in that they shrink, become much shorter, and nodular enlargements are found on many of them. When the use of alcohol is continued, in excessive amount and over a long period of time, there are many organs that become seriously involved, and pathological

changes obtain which no measures we possess can alter or replace in any reasonable length of time.

The influence of heredity upon alcoholism is a very interesting question. It is stated that when alcohol exists in the body in higher concentration than six parts in one thousand, death is inevitable, and that whatever concentration obtains in the mother's blood during the pregnant state, the same degree of concentration will obtain in the foetal blood. I do not believe that the taste for alcohol is directly hereditary. It is just as impossible for my mind to conceive that a child born of an inebriate mother or father will, of necessity, develop an uncontrollable desire for alcohol as it is that a child born of a morphin habitue will develop a taste or desire for morphin. Certain it is, however, that the child of an alcoholic father or mother will inherit an unstable nervous system, one that does not maintain its normal equilibrium, that responds unduly to the ordinary wear and tear of existence, that does not possess within itself sufficient vitality to give to the body the tone and vigor that is required in the ordinary performance of body function. With this defective condition throughout the central nervous system, this lack of normal equilibrium, it is perfectly possible that the child, in the environment in which it is likely to live, may become addicted to the use of alcohol, or anything else that is equally available.

Acute alcoholism requires a very short period of treatment, and most of these cases recover; but with respect to the management of the chronic alcoholic, I am of the opinion that any attempt to manage a case of this sort in a private home, is absolutely futile in a great percentage of cases. We must remember that we have to deal with an individual who is irresponsible, whose morals have materially deteriorated, who has lost a normal conception of his responsibilities and that fine appreciation of the relationship existing between himself and his fellow-man; who has lost all appreciation of the duties and obligations he owes to his own family. When we remember that we are dealing with a man so morally perverted that he will stoop to dishonor and falsehood in other things, it is but reasonable to believe that he will be dishonest with reference to the continuation of a habit of this sort. We cannot depend upon the veracity of these cases any more than upon that of the cocaine or morphin habitue, and unless the patient can be kept under the observation of a thoroughly reliable and dependable nurse, day and night, we may as well dismiss the case with the first visit, because we will meet with an unsatisfactory result.

So far as the use of remedial agents is concerned, I cannot see any pharmacological ground for the administration of paraldehyde. It is too closely related, chemically and pharmacological-

ly, with the action of alcohol to permit us to use it.

I am also averse to the administration, under ordinary conditions, of chloral hydrate, because it is so depressing to the circulatory apparatus. Vasomotor paralysis, both central and peripheral, may obtain after its administration—a condition too characteristic of the drug we are attempting to combat. Neither can I believe that it is good treatment to administer such drugs as trional and sulphonal. These drugs are but sparingly soluble and are absorbed very slowly. The stomach is still in a state of rebellion and, as a consequence, we cannot introduce drugs of this sort into the stomach and expect to produce sleep in anything like a reasonable length of time. A better way to secure hypnosis is by means of the hypodermic needle, and hyoscin is one of the best agents that can be used in this condition.

B. J. O'Connor, (Closing): In closing this discussion it will be impossible for me to touch upon all of the points that have been brought out.

In regard to the use of hyoscin, I do not know whether it has been due to the variability of the preparation I have used or to some unexplainable personal peculiarity, but my experience with it has been so extremely variable that I always hesitate to use it. In some cases, in my hands, instead of producing sleep, it will produce the wildest type of mania, given in exactly the same dosage of exactly the same preparation. Neither morphin nor hyoscin are primarily hypnotics; they relieve pain and produce dullness, and the hypnotic effect is a secondary one.

The statement made in the paper in regard to the danger of using morphin and hyoscin was quoted from Rawson and Scott, who cite 1109 cases which came under their observation in the Massachusetts Hospital for the Treatment of Alcoholics, which were compared with reports from the Massachusetts General Hospital, where quite a large series of cases had been treated, and also with reports of the Cook County Hospital in Chicago. It is only by gathering and comparing such statistics that we can form a reliable opinion as to the value of certain drugs.

Indications for Decapsulation of the Kidney.

—Lehmann reports three cases of chronic nephritis in which great benefit was derived from decapsulation, although the nephritic process itself did not seem permanently influenced. The general health, however, was much improved. He regards it as a life-saving measure in most forms of oliguria or anuria, especially with uremia in the course of acute nephritis; in this case it may have a favorable influence on the nephritis itself. It is indicated for uremia with chronic nephritis only when the trouble is an acute exacerbation of the chronic diseases and kidneys are still functionally capable. He cites instances of the various types.

THE FUTURE PREVENTIVE MEDICINE.*

By JOHN N. HURTY,

(STATE HEALTH COMMISSIONER OF INDIANA.)

For one hundred and fifty years yellow fever plagued Havana. Men were ignorant, and therefore, must suffer. We frantically tried to stay by quarantine. We thought that somehow its infection was carried in clothing. He was a pariah who had yellow fever and who had come from a zone where it existed. People held their breath when a yellow fever patient was in sight, and would as soon handle red hot iron. This was ignorance. The mosquito, the carrier of the infection, was disregarded, and when the world was told by the discoverer that the mosquito was the means of distribution it scoffed the truth and derided the discoverer of the truth. To prevent the introduction of yellow fever into this country, a special quarantine was maintained from the Rio Grande along the gulf coast, around Florida and up the Atlantic to Charleston, costing annually hundreds of thousands of dollars and not keeping out a single case of yellow fever. Sulphur was burned by tons and the gas forced into ships, ruining machinery, cargo and furnishings. Travelers were delayed in quarantine camps, and commerce was halted. All this resulted from ignorance. We did not know and understand. Dr. Carlos Finley, with observation powers superior to all who had gone before, perceived that the infection of yellow fever was not carried in clothing and by fomites, but was carried by mosquitoes and he so announced.

The darts of ridicule flew at him from every quarter. Editorials in lay and scientific prints showed how foolish were his contentions. Paraphrased and cartoonists had their day of ridiculing the discovery of a truth, and amidst all of these manifestations of ignorance and conceit, Dr. Finley stood alone, calm and confident, and now he has his day.

Truth is born in pain. The yellow fever quarantine is now a thing of the past, and we smile sadly at mention of it.

THE FUTURE.

What does the future hold for the prevention of other diseases? Therapeutics have gained many victories, but to hygiene belongs, without doubt, the place of honor in modern medicine. How completely therapeutics failed with yellow fever?—and how complete was the victor of hygiene? Was ever a case of typhoid fever cured with medicine? Who can positively and unequivocally say yes? The long time universal acceptance of the adage—

*Read by invitation before the Jefferson County Medical Society.

"An ounce of prevention is worth a pound of cure," is not strange, for it is an obvious truth. It is however, passing strange, that a practical people go little further than to acknowledge this truth and halt at its thorough practical application. A medicine to cure yellow fever is no longer sought for. Therapeutics carries no burden of investigation in that line, and to find a cure for cholera, no longer concerns that branch of medicine. We know there are two ways for fighting disease. We may destroy and keep the germ out of our bodies, and we may produce immunity. We now practice the first way with yellow fever and cholera, and the second with smallpox. It seems likely that only in comparatively a few diseases, will their hygiene consist in the destruction of the pathogenic microbes outside of the human body. It is not now the ideal of hygienists to preserve man from all contact with the germ of infection. Often we find the living body remains well in spite of its containing disease germs. When Loeffler first found diphtheria bacilli in the throat of a healthy child, doubts arose in his mind as to the etiologic role of his microbe.

Before that time hygienists believed that the infectious germs were only present when disease existed. Now, it is known that a man may be the host of diphtheria, typhoid, pneumonia and other germs without necessarily developing the corresponding diseases. It has been proved to be possible to introduce quantities of tetanus spores into the body of a guinea pig without the animal, which is exceedingly prone to develop tetanus, acquiring the disease. But Vincent has shown that by starving the animal, worrying it, or exposing it is too high a temperature—its resistance can be overcome and tetanus produced. Such results could not fail to influence practical hygiene.

Until rather lately it was believed that all typhoid infection was water borne, but now we know that the disease is contagious as well as infectious, and also that flies and very likely other insects carry it. Some hygienists even contend that "typhoid fever" is more frequently transmitted by contact than in any other way. In 1904, five cases of clinical typhoid at the Indiana Soldiers' Home, at Lafayette; the water supply from deep wells was faultless, the sewerage of the institution was perfect, and the cleanliness also perfect. The questions were: Where did the infection come from? and how many mild cases were there? Through laboratory tests by the Widal method and by bacteriological examinations of feces and urine, sixty-eight cases were discovered. Some of the unrecognized cases were diagnosed as malaria, some as obscure heart trouble, some as debility and others as stomach and bowel trouble. Final-

ly, four of the laundry force were taken down, also their nurses and two of the doctors.

Three months before, a son of the Commandant had come from college with typhoid fever and had almost succumbed. All excreta had been disposed of through the sewer and fly carriage was impossible, and so only one other method of transmission, namely contact, was possible. So the doctor in his rounds was observed and as he failed to wash his hands after handling the typhoid patients and passed on to others (it was supposed he was the carrying agent. He was, therefore, asked if he had handled the first case in this same way and he said he had. Eventually he came down and very nearly died. The washings of the door knobs of the doors of the typhoid patients' room all yielded colon bacilli.

The future hygiene will certainly require most careful department on the part of doctors and nurses. German medical literature tells of a woman who owned a bakery in Strassburg, and it was observed that her employees were constantly being attacked with typhoid fever. The bakery was very clean and passed the rigid German sanitary inspections, and so the authorities, as the care of the sick persons was upon the city and a public expense, made individual studies. It was found the proprietress had had typhoid fever ten years before, and that her urine and feces were teeming with virulent typhoid germs. She prepared all of the food for her employees and all used the same toilet closet. And so again the future hygiene will look further than the water supply for sources of typhoid infection.

At the conference of the water works officials with the State Board of Health recently at Indianapolis, the president of a certain city water company told of a case of typhoid fever next to his own house, and he learned by inquiry that the doctor had not given the slightest directions concerning the disinfection of the discharges. And furthermore, the said doctor said he never had given any such directions in all his years of practice! The water works president added, "What shall we do to protect ourselves against certain members of the medical profession?" Others present told of like experiences, and I mention the matter here that we may be reminded that the dirty, negligent doctor is not an honor to medical science and that the eyes of the public are open.

The future hygiene will also carefully immunize in all the phases, and especially the point brought out by Shiga, the eminent Japanese bacteriologist, who has shown us that quite all forms of diarrhea are due to the dysentery bacillus. In a word, that all continued infectious diarrheas, whether mild or severe, are really dysentery. Twelve years

after Shiga had had typhoid fever he examined his blood and found it absolutely free from agglutinating or sensitizing substances, yet he lived unattacked when he unquestionably, in an epidemic of the disease, had taken in the infection. Evidently then, immunity does not depend upon the presence in the blood of protecting substances, for many other instances like that of Shiga's are known. And again, patients have been known to have a relapse when the blood contained large quantities of agglutinating and sensitizing substances. For these reasons, Widal, the inventor of the sero-diagnostic method of typhoid fever, has always contended that those properties are not indicators of a refractory state of the body. After having proved that his serum contained no agglutin Shiga injected himself subcutaneously with liquid products of the bacillus typhosus. He found that already after eight days the agglutinating power of his serum was manifest in a dilution of 1 in 640, and the sensitizing substances showed a corresponding increase in the same time. The serum of another person who was injected with the same substance, showed an agglutinating power only in a dilution of 1 to 80 after the same interval. This great difference—for Shiga's serum agglutinated eight times more strongly than the other man's—may be explained by the fact that the Japanese bacteriologist had had typhoid, whilst his colleague had never suffered from the malady. Shiga's immunity, therefore, consisted in a vital modification of his cellular elements.

The future hygiene will consider what modification may be practiced. In his researches on acquired immunity towards the cholera vibrio, R. Pfeiffer was much astonished to see his vaccinated guinea pigs dying in spite of the presence of large quantities of sensitizing substances in their body liquids. These animals died of the infection caused by the cholera vibrio. Now this result can readily be produced by paralyzing for a certain time the activity of the white blood cells.

Cantacuzene succeeded in killing, by vibrionic infection, even highly immunized guinea pigs by preliminary injection of small quantities of morphine. Thus it was sufficient simply to retard the phagocytic action by a drug in order to make the animals lose their immunity and to render them an easy prey to the cholera germs. Medication, therefore, is dangerous, and must be practiced only in the light of immunity experimentation. Preventative may come to mean, in part, the prevention of the giving of medicine. For, if *only* the phagocytes can fight off invading disease germs, and if some medicines hinder or damage the phagocytes, then it follows that said medicines should not be given, at least at times. This is not at all strange or new, for

we have always known that the very best medicines are at times contraindicated.

ALCOHOL FAVORS DISEASE.

More medicines than morphine are adverse to phagocytic action, and among them is alcohol. It is well known that persons who indulge too freely in alcohol show far less resistance to infectious diseases, especially to pneumonia, than abstemious individuals. The vaccinations against hydrophobia carried out on persons bitten by rabid dogs are rarely failures; but when the person is an alcoholic they are generally failures. Delearde found that rabbits to which he administered alcohol in the course of immunization against anthrax, died of the disease, while the control animals, which were not given alcohol, did not die. And Abbott has confirmed these experiences by proving that animals, if subjected to the influence of alcohol, become more sensitive to the harmful effects of certain microbes, such as streptococci, staphylococci and bacterium coli. Latvian administered alcohol to rabbits for several weeks and then injected them with a small dose of the first vaccine of anthrax. Six animals thus treated died after a more or less prolonged illness, all of these contained anthrax bacilli in their blood and organs. Of four control rabbits which received the same dose of the same vaccine, but to which no alcohol had been administered, only one died, and the other three enjoyed perfect health. Experiments by others have shown clearly that alcohol inhibits the activity of the phagocytes, and if their health and forcefulness against invading germs is lowered, defense must be feeble. As a logical consequence of the experiments of the weakening of immunity under the influence of alcohol, it plainly appears that this substance is contraindicated in the treatment of infectious diseases.

The future hygiene will teach temperance from a truly scientific standpoint.

THE HYGIENE OF THE ALIMENTARY CANAL.

Metchinkoff has an exhaustive essay upon "The Hygiene of the Alimentary Canal," from which I draw freely. It is safe to say that with a normal alimentary canal acting normally, health and resistance to disease will quite always prevail. It is now proven without doubt that microbes can penetrate into the blood by way of the intestine. Ravenel has shown that dogs fed on butter containing virulent tubercle bacilli exhibited the first and only lesion, not in the intestine, but in the lungs, or other organs, principally, however, the lungs. No lesion occurring in the intestine itself except in a few instances. This happens when the intestine is believed to be intact, but far more freely when there is constipation, diarrhea, or intestinal indigestion.

After extra hearty meals, too, and after gorging especially, microbes may penetrate more freely through the intestinal walls and find their way to organs and attack them. Dilatation may therefore be conducive to infection. The future hygiene then will insist upon keeping the intestinal canal in normal condition. In the Pasteur Institute, where great experience in the methods of preparation of therapeutic serums has been gained, they have for years made it a standing rule to bleed a horse after a meal, because under the conditions the development of microbes may take place in the serum, even if it has been obtained under the strictest aseptic precautions. There they say, "An animal should always be kept fasting before bled, if it is to furnish a sterile serum." This is now done in all serum laboratories.

The greatest liability of the body to microbial invasion after a meal is probably due in part to the fact that the food is plentifully supplied with them. For instance, a glass of milk, will contain untold millions and very frequently quantities of them are pathogenic. The more bullets in the air the more the likelihood of being hit. If digestion is vigorous, it would seem there would be lessened chances of the organisms introduced with food from penetrating the intestinal walls; but digestion, even in animals, is not infrequently more or less impaired. Besides, in eating, we almost always take in some rough particles, a minute piece of bone or oyster shell, a grain of sand, berry seed, or scratching particles of some kind. These may wound the mucous lining of the intestine as they occasionally do that of the mouth, and thus make a portal of entry for microbes into the tissues beyond. Eating, therefore, is an act not unattended with danger, just as walking in a crowded street is dangerous. In large cities, a number of people are injured or killed daily in the streets or in buildings, when simply pursuing their ordinary life, the life they have followed for years. This danger every one recognizes, and takes precautions accordingly. In eating, it is true we recognize the danger of poisons; and toxin poisoning is not of infrequent occurrence. But, until lately, it has not plainly appeared and appreciated that we take our health and our lives in our hands when we sit down to eat. The future hygiene will emphasize from a laboratory standpoint, from a highly scientific basis what is already taught on general principles,—that food must be clean, always well cooked, slowly taken, and well, very well, masticated. It must be taken, too, in moderate quantities; for dilatation of the intestinal tract, the stretching of membranes, favors the passage through them of germ enemies.

The so-called digestive leucocytosis is deep-

ly interesting. Many observers have found that in man, as well as in several other mammals, the number of white blood cells increase sometime after meals. There are differences of opinion as to the explanation of this phenomenon. Nicholas and Lot have made investigations of this matter and have established the fact that the number of white blood cells rises after a meal, especially if the food be raw beef. Even in rabbits, after feeding on cabbage and bread, the white cells increase. In one series of experiments the greatest number of leucocytes was found one hour and a half after the meal. What is the reason for the analogy with the leucocytosis of disease, an analogy so striking that one might be tempted to inquire whether the digestion of food is not also a kind of infection?

The fact of the matter is, a certain number of microbes penetrate through the intestine, and find their way into the circulation, and it being the business of the leucocytes to evict the intruders they dutifully rally to their work. What will future investigation discover in connection with digestive leucocytosis? And what bearing will it have upon dietetics?

The theory of von Behring—that tuberculosis in man is caused by the ingestion of Koch's bacilli in early childhood, has much solid ground to stand upon and has lately given rise to a great deal of research work on the mode of entry of microbes into the inner organs and the blood by way of the intestine.

Recently, Calmetti and Guerin, as well as Vallee, have published much new data supporting the contention. Whilst the direct introduction of tubercle bacilli into the trachea of calves was, in Vallee's experiments, followed by slight lesions, the absorption of the same bacilli by way of intestine produced a severe tuberculosis of the lungs.

Not all pathogenic microbes show so great a power of invading the body from the intestine as tubercle bacilli. Thus, it is most difficult to cause anthrax in guinea pig by making them swallow the virus. But the slightest lesion of the intestinal wall is sufficient to enable the swallowed bacilli to enter into the body and to cause fatal infection. Although there still remain several open questions with regard to the mode of infection by way of the intestine, as no doubt remains as to the very great importance of this gate of entry. The entirety of the results which have been accumulated by science, prove that the intestinal wall is worthy of being made the subject of most careful hygienic consideration. One recently acquired knowledge of infectious diseases has shown that many of those which were formerly attributed to special miasmata circulating in the atmosphere, in reality originate from wounds caused by insects. Especially to English investigators, science

and humanity are indebted for this fundamental idea. Following the memorable discoveries of Manson on the role of mosquitoes in the transmission of filariae, Bruce demonstrated that the disease called magana is caused by a trypanosome which is inoculated through the tse-tse fly. Since then a large series of Arthropoda have been recognized as dangerous intermediaries which transmit to man and to animals, the virus of human plague, of malarial fever, yellow fever, relapsing fever, sleeping-sickness, Texas fever, spirillosis of fowls, etc. Most frequently diptera, such as mosquitoes and flies are the transmitting agents. In bubonic plague, fleas play the role of inoculators, in relapsing fever, bugs and ticks fulfill their similar functions. Within the last few years insects and arachnidae have attracted the most interest from medical men and naturalists, and whilst formerly only a few amateurs devoted themselves to the detailed study of the diptera and arachnidae, these classes have nowadays, become the object of most assiduous study to a large number of scientists. As a result of these investigations, an elaborate system of hygienic measures has been worked out, which consist in endeavoring to avoid and to destroy mosquitoes, rats carrying fleas, flies, head-bugs, etc. A most simple hygienic precaution was recommended by Koeh against African relapsing fever. According to him, one need only avoid the huts which are infested with ticks and sleep at a distance from the road of the caravans in order to prevent having this disease. How simple then, is the hygiene of African fever.

To the diseases originating from the bites of arthropoda correspond to the diseases originating from wounds of the intestine and caused by entozoa, mainly intestinal worms.

Formerly, great attention was given to these parasites, to which were attributed all sorts of local and general maladies. In therapeutic systems of fifty or sixty years ago, a great deal was said for vermifugal remedies, by which many intestinal troubles and even certain nervous disorders were believed to have been cured. Since that time, the parasitic worms have been removed to a very different plane, and they have been nearly forgotten in favor of the microbes, to which is assigned the place of honor in medicine. The worms were so often found living quietly in the intestine, and their hosts were found not perceptibly suffering through them, that physicians had become accustomed to consider them almost, or quite, inoffensive. And yet this opinion is by no means justified. True, an intestinal worm may not impair health in any way, just as many mosquitoes, fleas and ticks may prick men and animals without causing anything more than a transitory and not painful itch-

ing. But on the other hand, it is equally certain that the bites of intestinal worms may cause as much evil as the pricks of arthropoda carrying pathogenic microbes.

Many examples and observations could be cited which supply a broad basis for concluding that intestinal worms play no inconsiderable part in the etiology of disease of the alimentary tract and of those maladies which are inoculated through that tract. The success which frequently results from vermifugal treatment in persons suffering from appendicitis, pointed to the importance of the entozoa in this disease. It is more than probable that a campaign against intestinal parasites, which would be conducted on similar lines to the war now waged against mosquitoes and other microbe-carrying insects, would be a move which would produce marked results in prophylaxis.

As parasites of all kinds, microscopical and macroscopical, from the minute bacillus typhosus to taenia solium twelve feet long, find entrance to our bodies in food and drink, it behooves us as reasoning creatures, to take care of our food. We must all agree with Metchnikoff, that raw foods are unhygienic.

Hygiene measures to prevent the introduction of disease by way of the alimentary canal, must keep vigilant watch over everything that enters the mouth. All foods, including water and milk, vegetables and fruits, should be submitted to a boiling temperature for at least five minutes, for butter and milk and for other articles a sufficient time to thoroughly cook them. In addition to this, cleanliness must separate us from our excreta, by which I mean that all sewage must be disposed of in a sanitary way and everything possible be done to prevent the re-introduction of our excrement into our alimentary canals.

Let all these things be done by all persons all of the time, and Pasteur's grand inspired message, "It is within the power of man to banish all parasitic diseases from the earth," would in great part be realized.

Serotherapy of Tuberculosis to Date.—Piel comments on the increasing vogue of serotherapy in tuberculosis during the last eight or ten years but adds that opinions are still divided as to the dosage, and especially the dosage at various ages. He reviews the history of serotherapy, especially of the maragliano, Nephroschney and Marmorek preparations. He remarks in conclusion that we have not made much advance in serotherapy after all in the last twenty years, and it is possible that we are on the wrong road, but that the results to date justify further trials, keeping watch over the outcome for years and always with a scientifically critical mind.

CLINICAL CASES.

REPORTS OF CASES.

By C. B. SPALDING, Louisville.

CASE I.—PYONEPHROSIS.

I saw this case with Dr. Bushong, of Tompkinsville.

Patient, female; age 24; white; married; weight about 100 pounds; gave birth to a child about two weeks before this trouble came on. She made a perfect recovery from the birth of the child, got up and went to the county fair. She came home complaining of pains in the lower abdomen. These pains continued and became so severe as to require the woman to go to bed. She began to run a temperature ranging from normal at some times to as high as 103 at other times; no regularity in the temperature scale. Pulse around 120. The pains began to subside in the lower abdomen and to extend upward on the left side, finally locating themselves along the border of the left costal cartilage. Abdomen distended but not rigid. Examination showed complete subsidence of any symptoms which might have indicated pelvic trouble, all the symptoms being referable to a mass under the border of the ribs on the left side. The fact that the temperature was normal at some periods of the day and high at other times indicated to me that the condition must be such as would admit of partial drainage of the supposed abscess cavity, and the lack of rigidity suggested that this condition was extra-peritoneal. However, I told the doctors I could not be certain that the kidney was the organ at fault, and would make a puncture in the left rectus muscle in an effort to verify the diagnosis. This we did, Dr. Bushong assisting, and readily made out that the mass was the kidney. The wound was promptly repaired, the patient turned on her side, and the kidney taken out from behind.

The kidney was very large—about the size of a foetal head, filling the entire left upper quadrant of the abdomen, with a very short pedicle, making it exceedingly difficult to amputate without rupturing the sac. However, we succeeded in getting it out without rupture and without any hemorrhage except from the sac wall. The pedicle was tied with chromocized catgut, No. 2, and the clamp

left on. The wound was closed with drainage and the woman put to bed with a pulse of about 140. Dr. Bushong 'phoned me two days later that the patient was holding her own, and at the end of three weeks she was sitting up, all the fever having disappeared and the wound having healed. I heard from Dr. Bushong about the first of February, and he reported that the patient weighed ten pounds more than she ever had in her life and was perfectly well.

Pathological examination, made by Dr. E. S. Allen, showed no evidence of tubercle bacilli.

CASE II.—GENU VALGUM.

Patient, a female colored child, aged 7 years, with a most exaggerated condition, as cut No. 1 will show.



Operation performed August 3rd, 1911, consisting of breaking the bones just below the knees, finding it necessary to break both fibula and tibia by means of the chisel. Each leg was then twisted so that it would be as nearly as possible in a straight line, and a plaster cast applied from the thigh down. The first change of the cast was on September 4th, which was made necessary by hemorrhage from the open wound.

My reason for operating below rather than above the knee was that a former operation (by some one else) had been done, without any result, leaving a thickened bone.

This patient had no after symptoms of any

consequence. She was dismissed from the hospital on December 7th, 1911, at which time she was able to walk without assistance, and to hold herself perfectly erect with the legs in a nearly perfect line, as shown by cut No. 2



CASE III.—THORACIC ANEURISM.

Patient, Mr. E. Z., age 38, seen with Dr. A. P. Mueller on December 8th, 1911.

Personal History: Had been a hard drinker for many years. Denied specific history.

He was first seen by Dr. Mueller in the early spring of 1911, having been ill for some months at that time. He complained of pain in the region of the heart and over the abdomen. Dr. Mueller, at that time, was unable to make out any definite circulatory lesion, but told the patient that there was something radically wrong with his heart. After seeing him a few times the patient got out of his hands, and was operated upon for appendicitis on August 15th by a local surgeon, from which operation he recovered, but his abdominal pains continued as before, except that they were on the opposite side of the abdomen. After leaving the hospital he again called in Dr. Mueller with whom I saw him on December 8th, 1911, the patient never having been able to go to work.

He was greatly emaciated, the abdomen was distended, and he still complained of severe pains throughout the abdomen. Physical examination showed no tenderness in the abdomen and no rigidity of the muscles, which at once suggested to me that the seat of the trouble was not within the cavity. His emaciation was such that the possibility of tuberculous suggested itself, and upon turning him upon his side to make a chest examination, we

noticed a marked change in his respiration, the patient gasping as though he would hardly be able to stand the position. We questioned him and found that this did not occur except when he was lying upon his right side, which suggested interference with the circulatory system. However, we went over the lungs carefully, and while percussing between the ribs at the lower angle of the left scapula, we detected a pulsation. Upon examination of the heart, we decided that he had a thoracic aneurism, and so told his family, although there was absolutely no bony destruction of the wall at that time. An X-ray examination was advised but the patient's financial condition would not permit it. I again saw the patient with Dr. Mueller about the first of February, at which time a pulsating tumor about the size of a child's head, presented upon the back, in the region of the angle of the scapula, fully confirming the diagnosis. The patient died on February 10th. Post-mortem showed a thoracic aneurysm, oval in shape, about 8 inches long and 4 inches in its widest diameter, which had destroyed the greater portion of the discs of the third, fourth, fifth and sixth dorsal vertebrae, and had entirely destroyed the vertebral attachments of four ribs and a portion of the scapula. The rupture in the artery was fully as large as a silver dollar, as shown by the specimen which I herewith present.

The special points of interest in this case are, (1) the diagnosis of thoracic aneurysm before it presented without the bony cavity; (2) the tremendous amount of destruction of bony structure within a few weeks; (3) the rarity of thoracic aneurysm.

DISCUSSION.

Guy P. Grigsby: From the photographs Dr. Spalding has exhibited, I think he is to be congratulated upon the result obtained so far.

I do not understand why incision was made above, as there is no necessity for any incision in these cases as a rule. They can be done subcutaneously in a very satisfactory manner. They are usually done above the condyles and in that way we can get a better correction. A mistake that is usually made in these cases is in putting the limbs up in a straight line, and as soon as the weight of the body is put on them the deformity recurs. Experience has shown that over-correction of the deformity is one of the most important features of the treatment of these cases. I would suggest to Dr. Spalding that, in his case, there is still some deformity in the right leg, and it would probably be a good plan to do a subcutaneous osteotomy on the femur and over-correct it. He has so far gotten such a good result that it would be a pity not to get a perfect one when it can be done so easily. It is wonderful what satisfactory results we get from osteotomy and correction with plaster in these cases.

I would also suggest that this child should wear plaster or other form of support for at least a year or two, so that the bones will develop sufficiently to bear the weight; otherwise the deformity is almost sure to recur.

C. B. Spalding, (Closing): I wish to thank Dr. Grigsby for his discussion. Probably the description I gave of the incision was misleading; I simply made a slight opening in the skin and used the chisel.

I think these bones are thoroughly capable of taking care of themselves. They are as hard as flint now and I do not believe it will be necessary to do anything more.

MEDICAL PROGRESS

DEPARTMENT OF BACTERIOLOGY AND PATHOLOGY.

By EMMET F. HORNE, Louisville.

I.

The Use of Antiformin in Examination of Sputum for the Tubercle Bacillus, W. W. Boardman, Baltimore, *Bull. Johns Hopkins Hospital*, VII., 1911; XXII., No. 245.

An absolute diagnosis of pulmonary tuberculosis can be based upon one, and only one finding—the demonstration of tubercle bacilli in the sputum. Any procedure which will increase the accuracy of sputum examinations should be welcomed. The method here outlined has proven very valuable in the hands of numerous laboratory workers.

Antiformin is a yellowish fluid, the composition of which is similar to Laharraque's solution. It contains about 7.5 per cent. of free sodium hydrate and 5.2 per cent. of bound chlorine. Uhlenhuth and Xylander in 1908 mentioned antiformin as a useful disinfectant. Antiformin has the property of very rapidly dissolving all bacteria, except tubercle bacilli and other acid-resisting bacteria, and the method of isolating tubercle bacilli is founded on this fact.

Boardman describes the technique as employed by Uhlenhuth, Hulse, Meyer, Seeman and others. He says that after trying various procedures, the following was finally adopted as the most satisfactory both as regards method and results.

1. Place the entire 24 hours' sputum in a conical settling glass; if the amount be excessive it is perhaps better to use only 15-20 cc.

2. If the specimen is thick, add an equal volume of distilled water. Less tenacious specimens do not require so much dilution. (Note:—One must be sure that the distilled water harbors no acid-fast organisms.)

3. Add an amount of antiformin equal to

one-fourth the volume of the diluted sputum; in other words, sufficient to make a 20 per cent. solution.

4. Stir thoroughly, thereby breaking up the masses of mucus and greatly hastening complete solution.

5. Allow to stand till solution appears homogeneous. It should now be watery in consistency and pale yellow in color; if necessary, more water or more antiformin should be added and digestion allowed to continue. This will usually require from a few minutes to an hour, but may be allowed to continue for days with no resulting harm to the tubercle bacilli.

6. Add an equal volume of 95 per cent. alcohol. By this procedure the specific gravity is reduced from about 1.030 to below 1.000; thereby not only hastening sedimentation, but making it more complete.

7. After stirring, allow to stand till sedimentation is complete. This will occur in 2-4 hours, but a period of 12-24 hours is recommended. During this sedimentation it may be necessary to gently turn the vessel to dissolve little particles of sediment which may be adhering to the sides of the vessel.

8. Pour off this clear supernatant fluid.

9. Make smear from the sediment on a glass slide, using some of the original sputum to aid in fixing the smear. This is best done by making a smear from the sputum before antiformin is added and afterwards spreading the sediment from the sputum-antiformin mixture on the same slide. Stain and examine in the usual way.

Boardman believes that he is justified in heartily recommending the use of antiformin in the examination of sputum for tubercle bacilli, not only in hospitals and dispensaries but in the laboratory of every private physician.

II.

Beitrag zur Serodiagnostik der malignen Tumoren (Contribution to the Serodiagnosis of Malignant Tumors), Dr. P. v. Monakow, Dresden, Germany, *Muenchn. med. Wchnschr.*, X. 17. 1911-XLIII. No. 42.

As a result of the immense improvement in the diagnosis of infectious diseases through the extension of our serologic knowledge, many experiments have been made in an endeavor to improve the diagnosis of malignant tumors by the application of the same basic principles. Quite a number of attempts have already been made to make possible an early diagnosis through the demonstration of specific antibodies (præcipitins, hæmolysins, complement fixation substances, etc.) in the blood of carcinoma patients.

Monakow mentions the more important

techniques for the serodiagnosis of cancer. He believes that two of the more recent methods offer some degree of success: the meiotagmin reaction of Ascolis and the cell reaction of Freund and Kaminer.

Monakow quotes Ranzi with reference to the meiotagmin reaction: in 234 cases of malignant tumors, the reaction was positive in 89 per cent; while in 233 control cases, normal men or patients afflicted with various diseases, only three reacted positively.

The experience of Monakow with Freund and Kaminer's reaction is as follows: 15 patients with malignant tumors were examined and a positive result obtained in 86 per cent. As control, 52 patients who were known not to have cancer were examined, 25 per cent. showing a positive result, 9.6 per cent. a doubtful result, and 65.4 per cent. a negative result.

Judging from the above figures, the meiotagmin reaction is of greater value than that of Freund and Kaminer. For final judgment as to the relative merits of the two reactions, a greater number of cases must be examined.

To have a test which can be applied with certainty in the diagnosis of obscure cases of cancer will indeed be of incalculable value both to the internist and to the surgeon. Let us be optimistic enough to hope that such a reaction will soon be discovered.

III.

The Blood Picture in Tuberculosis, Margaret R. Lewis, Baltimore; Bull. Johns Hopkins Hospital, XII, 1911-XXII, No 250.

Quite a number of cases of tuberculous were studied and an endeavor made to determine whether the work of Arneth was of practical value clinically. Not only was Arneth's neutrophilic blood picture studied but also the other varieties of leucocytes were noted and counted.

Lewis believes that the neutrophilic blood picture together with the differential blood count is of great value in prognosis in tuberculosis, but not of much value in diagnosis.

A number of conclusions worthy of repetition are given:

1. The number of leucocytes in incipient tuberculosis is between 9,874 and 10,209; while this is slightly higher than most observers have found, it is not markedly different. There is distinct increase in the number of leucocytes with the progress of the disease. Moribund cases show a marked leucocytosis of 26,300.

2. The percentage of neutrophils varies from 64.4 in non-tubercular cases to 78.5 in dying tuberculosis cases. This increase of the neutrophils in the more unfavorable cases is very marked and indicates an unfavorable prognosis.

3. The large lymphocytes according to the statistics show no apparent relationship with the progress of the disease.

4. The small lymphocytes on the other hand did show a very close connection with the course of the disease and this connection might of itself be used as a means of prognosis. In non-tubercular cases and in incipient cases, those cases with good prognosis and those cases whose subsequent history showed improvement gave between 9 and 11 per cent. of small lymphocytes. The more advanced cases show between 4.1 and 6.2 per cent., while the moderately advanced cases and those with doubtful prognosis stand between and have between 7.5 and 7.9 per cent.

5. The eosinophiles decrease with the progress of the disease until in dying cases they are entirely absent.

6. The basophiles give no definite results.

7. The neutrophilic blood picture was represented only by the index. The average index for non-tubercular cases is 54-46, the far advanced cases 75-25 and all stages in between have a corresponding shift to the left in the index. The changes noted for the neutrophilic blood picture were more constant than any other change in the blood and much more so than any of the usual signs and symptoms. In diagnosis the usefulness of the neutrophilic blood picture is not great when taken by itself as other conditions may give a slight shifting to the left, but when considered in connection with the other blood cells and when more than one observation is made, it may be of diagnostic value. In prognosis, however, both at the time of examination and during the course of the disease, the degree of shifting to the left is an exceedingly sensitive indication of the resisting power of the individual and of the progress of the disease.

Neurorecurrences in Syphilis.—At Jadassohn's clinic at Berne thirteen cases of the so-called neurorecurrences of syphilis after treatment with salvarsan have been observed in the last year. Dossekker is sure that the salvarsan has something to do with them, although they are undoubtedly of a syphilitic nature; their frequency since the introduction of salvarsan cannot be explained away on any other basis. The prognosis of these neurorecurrences seems to be favorable, especially if they are promptly detected and treated. The clinics at which a combined mercury and salvarsan technic is applied seem to have had less of these neurorecurrences than others. He urges all to keep a watch for them as neurorecurrences may develop later without the knowledge of the clinician who administered the salvarsan.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. X.

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NO. 7

EDITORIAL.

SENATE BILL FIFTY-SIX VETOED.

Under Official Announcements, we publish a full text of Governor McCreary's veto message of Senate Bill 56, which was one of the worst measures that had ever been presented to our Legislature. Governor McCreary has again earned the gratitude and confidence of the people he has served so long and so well. This message is really a great State paper on Preventive Medicine and will be read with interest by everyone.

PROCEEDINGS OF THE CHICAGO CONFERENCE ON HEALTH AND EDUCATION.

The following report published in the March number of the *Illinois Medical Journal* will be of interest to our readers:

EIGHTH ANNUAL CONFERENCE OF A. M. A. ON MEDICAL EDUCATION, MEDICAL LEGISLATION, AND PUBLIC HEALTH.—IMPORTANT MEETING.

These conferences grow in interest and importance and the last session held February 26 and 27, at the Congress Hotel, Chicago, was probably more interesting and important than any of the previous sessions. Representatives were present from every state and Porto Rico.

THE FIRST DAY.

Dr. A. D. Bevan presided the first day and gave an opening address. Dr. N. P. Colwell presented his report showing a gradual but healthy improvement in medical college conditions. Unfortunately Chicago, for reasons of which our readers are well aware, shows the least change.

The presence of Mr. Frederic G. Hallett, of London, the executive officer of the conjoint

Examining Boards of the Royal College of Physicians of London, and the Royal College of Surgeons of England, who gave a comprehensive statement of the methods employed in the examinations conducted by these venerable and highly honorable bodies, was one of the very attractive features of the meeting. Mr. Hallett, by means of charts and diagrams, showed that it was entirely feasible to apply the practical tests on patients to all applicants for license to practice medicine and surgery. Several of the states of the Union are already applying these methods, and there is no good reason why all should not. Dr. Bevan stated that this could be readily done in Chicago.

Another address which was highly commended was that given by Prof. Reuben Peterson of Ann Arbor, on the Relation of Medical School to the Intern or Hospital Year. The extensive and interesting discussion of this paper by Drs. Murphy, Vaughan, Means, Lambert, Jackson, LeFevre and Dyer representing all sections of the country, was notable in that each and every one commended the magnificent work done and contemplated by the Michigan school, and the necessity of giving each graduate comprehensive and systematic course in hospitals. The hospitals must be brought up to a standard, and made to be something more than boarding houses for the sick. A resolution was adopted requesting the Council to make a systematic inspection of all hospitals with a view to their availability for intern instruction.

The last topic, a symposium on Medical Education in the State, was notable among other things for the frank acknowledgement on the part of one of the speakers, that the Carnegie Report on Medical Schools issued in 1910 was correct, and one of the most beneficial criticisms on the existing conditions that could have been made. He took occasion to emphasize the language of that report which declar-

ed Chicago the "rotten spot" of the medical education world. The reiteration of this statement was greeted with an applause which spoke louder than words.

THE SECOND DAY—MEDICAL LEGISLATION AND PUBLIC HEALTH.

Dr. Henry B. Favill, of Chicago, presided and uttered an address which was quite remarkable, and led up to the most dramatic climax it has ever been our privilege to witness. Dr. Favill's remarks were to the effect that the activities of the profession in political matters had brought about considerable criticism from a portion of the public. We had been accused among other things of being "a professional trust"; or using "trade union methods"; of "abandoning our high ideals and stooping to political methods," etc., etc. Because of these disagreeable statements Dr. Favill thought it the part of wisdom to at once abandon our efforts along political lines and depend altogether on our efforts to educate the people. He further made the remarkable manifesto that this wise conclusion reached after long and exhaustive study of the subject, being the personal opinion of the chairman, could not be discussed. All present were amazed at the temerity of the chairman, and wondered what would be the effect of his pretention to infallibility in a matter so near to the heart of the profession and so important just at this time.

THE DRAMATIC CLIMAX.

Scarcely had the chairman taken his seat ready to call for the next order of business when Dr. J. N. McCormack of Kentucky sprang to his feet, and in eloquent language called attention to the stand taken by the parent organization at the Los Angeles meeting. The representatives of the organized profession duly elected and clothed with plenary power had pledged the organization at its annual meeting to a continuation of the contest which it had commenced, and instructed its committees and its journal to use their utmost endeavors to procure the passage of the Owen bill. If it should go out to the public that this conference, after all that had been said and done, had to-day taken a different stand, and should by its silence give consent to the doctrinaire sentiments of the chairman, a blow would be struck at the good faith of the profession from which it would never recover. Mr. Owen, who had taken his life and his political fortune in his hands in advocating our cause, would go down to a disgraceful defeat, and the blood of this sacrifice would be on our hands. McCormack said that he had just come from a contest in Kentucky, which showed the extremities to which the enemies of the profession would go to bring about his overthrow. Thanks to the united stand which the

profession and the people of this state had taken, the enemy had been beaten horse, foot and dragoons. The effect of McCormack's eloquence was magical, applause punctuated his statements, and when he concluded the acclaim continued for several minutes. We have never seen anything like it on the floor of a medical meeting.

The supra climax came at 4:30 p. m., when a resolution pledging the active support of the profession to the Owen bill was passed by a unanimous vote of the members present. As our readers well know, this bill proposes the consolidation of the three existing bureaus into one central national board: (1) the Public Health and Marine-Hospital Service, now under the Treasury Department, (2) Vital Statistics, now in the Census Department, (3) Bureau of Chemistry, now in the Agricultural Department. Another resolution adopted calls for the formation of a national council on public health under auspices of the American Medical Association. The aim is to bring together annually or oftener all federal, state and municipal health officers for discussion of health and legislative subjects. Through such an organization, it is contended, health officials will be able to standardize and systematize their work and wage a united campaign for proper health legislation in nation, state and city. Congress was asked for financial support for the international congress of hygiene and demography at Washington in September.

The Council on Health and Public Instruction was asked to draft a model medical practice act as soon as possible.

A committee to investigate the status of vaccination and small-pox statistics and to prepare a model bill on vaccination for introduction in legislatures of all states will be formed.

A committee to consider changes and modifications of the present model law on registration of vital statistics will be formed.

Establishment of a pure food and drug board of examiners in every state was advocated by E. F. Ladd, state commissioner of foods and drugs of North Dakota, in an address.

There should be a board in every state to pass on patent or proprietary products coming on the market, he said. "When a product was found to be a fake no license for its sale should be granted; or if the advertising or descriptive matter were false or misleading—either that accompanying the product or as published through the press—then the license for the sale of this product should be revoked." Commissioner Ladd urged an agitation for the enactment of a general merchandise marks act, making it an offense for any

manufacturer to sell any manufactured product under a false label.

Dr. J. W. Pettit, superintendent of the Ottawa Tent Colony, outlined a program against tuberculosis.

AN APPRECIATED EDITORIAL.

The following editorial from the *Log Cabin*, of Cythiana, of March 1st, will be read with interest by the profession of the State. It is a beautiful tribute to the effectiveness of the medical profession of Harrison County and a fitting rebuke to the so-called League of Medical Freedom, which is really a League of misguided cranks for whom idea funds are supplied by the Patent Medicine, Adulterated Food and other corrupt interests:

"We are in receipt of a most remarkable circular letter from Louisville, signed by one Ben F. Alford, making a ridiculous attack upon the State Board of Health and criticising the election of Dr. South as president of the board.

"The letter tells of the purposes of the 'League for Medical Freedom' which is fighting against compulsory vaccination; the destroying of dairy cattle, (Mr. Alford fails to say diseased dairy cattle); the destroying of food supplies (Mr. Alford fails to say adulterated food supplies); the requiring of physicians to secure a state certificate before practicing medicine in Kentucky. As the *Log Cabin* heartily indorses each of the above mentioned things which the State Board is endeavoring to enforce, we respectfully decline to give any assistance to the alleged 'League of Medical Freedom.' In our opinion, any physician opposed to vaccination is fifty years behind the times. In our opinion every physician who presumes to treat diseases should be able to meet the requirements of the State Board of Health. There are so many medical colleges in the country that a diploma has a very indefinite meaning. Even lawyers and school teachers, no matter what diplomas they hold, must undergo an examination to determine their qualifications before they can practice or teach. And it is very much more important that the people have some slight protection against the medical incompetents and the fakirs. The physician who is qualified will not object to the reasonable requirements of the State Board of Health, and those who can not meet those requirements are a menace and ought not to be allowed to attempt to practice medicine. In our opinion there is no class of men who do more unselfish labor, without reward, than the medical profession. Right here in Cythiana the present winter we saw the physicians volunteering to take their turns in going to the city schools, free of charge, and examining the children's throats so as to detect the first

symptoms of diphtheria. But for this medical examination the schools would have had to close or a widespread epidemic of diphtheria would have followed. Many people will doubtless be misled by the insinuating and indefinite harangues of the 'League for Medical Freedom' but we are very sure that every legislator and every citizen is doing his state a splendid service when he upholds the State Board in every effort to secure pure foods, pure milk, healthy cattle, and to keep the quacks and the incompetents out of the medical profession."

YOUR SUBSCRIPTION EXPIRES.

Your subscription to the JOURNAL expires with this issue and this is the last number you will receive unless you have handed in your dues to your county secretary, who is our representative in each county.

It is with pardonable pride that we announce that we have the largest number of subscribers on our roll that we have ever had.

DR. D. C. BOWEN.

In the death of Dr. D. C. Bowen which occurred at his home in Elizabethtown, on March 15th inst., from tuberculosis, the State of Kentucky loses one of its foremost citizens. Dr. Bowen was not only one of the best practicing physicians in Kentucky but he was a broad-minded, indefatigable, medical statesman, was Councilor and Vice President of the Kentucky State Medical Association. He served it so well that he was unanimously elected a life-member several years ago, an honor which has been conferred upon no other man. Dr. Bowen's memory will be enshrined in the hearts of the medical profession of Kentucky forever.

RETROSPECTION.

The year 1912 has thrown off its swaddling clothes and all it has to write of medical history is, as yet, to be surmised, but it is to be firmly hoped that it, when it closes, will be counted among the years past when great things have been accomplished. I say this, when we review the history of the year 1911, it was not an epoch maker in medical history but in preventive medicine. It is now occupying the minds and keeping thousands of busy hands at work, has enough brilliant discoveries of recent years to place it in the Hall of Fame. It has been only a decade since the mosquito borne infection of the yellow fever was given to the world and to-day the great scourges of yellow fever that claim its thousand victims as told, is now but a memory. The history of Panama is another page in the history of preventive medicine of which we workers in this great field are proud to point

to and say to the world that we Americans did it. When you stop to consider what Colonel Gorgas has accomplished, not only in Panama but Cuba, one would almost stand aghast and marvel and exclaim that indeed there are new things under the sun. He stands there firmly with the sanitary situation of that territory absolutely in hand and the morbidity is lower than some of our cities and the death rate excepting occupational deaths is equally as low. Cleanliness, much living in the open, the God-sent porch, open air, good water, plain well-cooked food and an unceasing, annihilating fight against mosquitoes, flies, fleas and other insects, tell the story of his work and why it has been worth the while. Another achievement of former years that we are busy with is the hookworm crusade. To all it is wonderful and is worth the time and labor that is being devoted to it, from a diagnostic standpoint as well as a crusade to eradicate. And then again, tuberculosis is claiming the attention of both the profession and the laity more at this time than any other time in the history of medical literature. The daily press is carrying on a propaganda against this great white plague. Normal schools all over the land are disseminating knowledge of prophylaxis to the teachers that are going out and educating the young men and women of the next generation.

Municipalities, all over this great land, are spending more money, employing more trained men, taking the great machinery of preventive medicine out of politics, executing rules and regulations, bettering the sanitary conditions of their states, of their transit cars, of their great department stores, they are passing rigid and stringent ordinances covering the building equipment and care of tenement houses. I say these and many other things are occupying the minds and busy hands of the health worker of this land.

It is with pride that Kentucky health workers can show a record of work done and results accomplished in far greater ratio than the money appropriated by the different fiscal bodies. The Kentucky health officers are in the front rank and are doing things.

PHYSICIANS' MISTAKES; LACK OF CONFIDENCE.

We are living in an age of doubt. This is the day of the skeptic's choice. A world-wide mental and moral unrest indicates how shaken are the foundations of belief. We hold opinion but loosely and subject to ready revision. The world is sure of but one thing today and that one thing is, that it is not sure of anything. There are no established beliefs, no settled convictions anywhere in the life of the present. Even the ancient polities of China, the conservatism of the Church and the ultra-

conservatism of the Law are in the turmoil of transition. If any deny that this is an age of rapid progress he must admit that it is a time that holds itself ready for progress.

In such an age it is not strange that medicine should be permeated with more than wholesome doubt, for medicine, never satisfied with the past nor content with the present, has ever had her eyes to the front. Alert for improvement she has always questioned her best results in the interest of better.

It is not strange that medical men, somewhat shaken in old beliefs and not always grasping the new, should have fallen into doubt overmuch. There is a healthy skepticism which, too highly cultivated, exhausts the mental soil in which belief should grow. We question our science and mistrust our art. We believe too feebly in our work, in ourselves and in each other. We distrust our diagnosis, discount our prognosis and suspect our treatment.

The doctor is not excusable even in his own eyes for leaving himself in unnecessary doubt. Faithful study of his science, thoughtful practice of his art and painstaking examination of his patients will solve most of his doubts. Such as remain unsolved even with the aid of consultation he may in good conscience leave to the future advances of medicine.

Nor is the physician excusable for feigning his doubts in explaining the ease to the patient or his family. They can give no material assistance in solving them and usually have doubts and anxieties enough of their own. It is not suggested that deception be practiced. Honesty and fairness toward the patient and to himself often unite in requiring that the existence of doubts be acknowledged by the physician. Doubt emphasizes itself in the conscientious physician's mind and looms large in his thinking. He must not emphasize it to the patient but should put the stress upon the positive side, explaining his beliefs and hopes rather than his doubts and fears. The physician should be a man of faith in his science and confidence in his art, of belief in himself and assured certainty in his work. Without faith he can not inspire hope and unbelieving he can not rejoice in his work and joyless work of drudgery. We may appropriately repeat for ourselves and for our patients the invocation of Saint Paul, "Now the God of hope fill you with all joy and peace in believing." W. W. A.

AGAR IN CONSTIPATION.

Those physicians who have learned the value of ripe, red apples are invited to give attention to another, similarly efficient and safe remedy for the treatment of habitual constipation. As in the case of apples the remedy is not of a proprietary nature and hence no kind-hearted manufacturer will supply them with glowing accounts of its virtues, instead they must learn its properties in other ways. The remedy is worth the study, however, and with it, as in the case of apples, they may win the confidence and gratitude of their patients.

The remedy is agar agar, or simply called agar, and it is described in New and Nonofficial Remedies. It is not yet kept in every drug store but any druggist, if requested, will obtain it from his wholesale house. It comes in pieces like gelatin, in shreds or in a more or less coarse powder. Its method of administration is fully described in the "Truth about Medicine Department" of this issue. Agar acts mechanically by producing a bulky stool and produces no after effects as do ordinary cathartics.

If physicians will familiarize themselves with this drug, they will forestall the exploitation of many a proprietary preparation consisting of agar with a little dab of this or that for which most marvelous claims are made and an exorbitant price is charged.

Take our advice, get from your druggist a supply of agar, study its effects, find a pleasant method of giving it, and earn the gratitude of your patient by supplying them with a safe and efficient cathartic.

RADIUM EMANATION AND GOUT.

Recent investigations indicate that the monosodium urate of the blood exists in two forms differing in stability. In the blood of gouty persons containing an excess of uric acid, it is the more insoluble form which is responsible for the deposits in the tissues. It has been discovered that radium emanation is capable of splitting off nitrogen from the more stable form, making it more soluble and even decomposing it with formation of carbon dioxide and ammonia. Further studies showed that the metabolism of human beings on a purin-free diet, could be markedly affected by inhalations of radium emanation. Gouty patients exposed to the radium emanation showed an increased excretion of oxogenous purins, and the uric acid disappeared from the blood. It is also asserted that tophi actually became smaller or even vanished under the influence of the emanation.

While the investigators no doubt appreciate that the actual value of radium in the treatment of gout is still to be determined we

may forthwith expect to see advertisements for radium gout cures of all kinds and descriptions.—(*Jour. A. M. A.*, Feb. 24, 1912, p 560).

GELSEMIUM.

In these days of brilliant surgery, the various uses of bacterins, sera, the palatable elixirs and combinations of drugs put out by manufacturing druggists and chemists, we are prone to get away from individual drug action and study. It behooves us, therefore, to consider individual drug therapy, and for this reason I am constrained to briefly write of gelsemium, one of the old time therapeutic agents.

Gelsemium has been a favorite remedy with the writer for a long period of years and many opportunities have been presented for a thorough "trying out" of this valuable therapeutic agent.

I might say at the outset that I prefer the fluid extract, it being a more stable and reliable form, beginning usually with small doses and increasing until the full physiological effect is produced.

Internally it is a powerful motor depressant and sedative. "In moderate doses, but sufficient to produce decided physiological effects gelsemium causes a feeling of languor and mental calm, slowing of the action of the heart, drooping of the eyelids, dilatation of the pupil and some feebleness of muscular movement. In larger doses the physiological effects are vertigo, double vision, amblyopia, paralysis of the levator palpebrae so that the upper lid cannot be raised, dilated pupils, labored respirations in consequence of a paretic state of the respiratory muscles, slow and feeble action of the heart, great muscular weakness, and sensibility to pain and touch much reduced."—Bartholow.

Gelsemium is especially valuable in excessive nervous irritability, as in neuralgia, ovariagia, tic doloureux, myalgia, lumbago, intercostal neuralgia and sciatica.

In spasmodic coughs, especially whooping cough, it often affords relief. In cerebral congestion and irritation, combined with the bromides it is of value. It is of marked advantage in ovarian irritation, painful menstruation and pelvic disorders of a like character and is to be preferred to opium because it does not produce a "habit."

It is especially valuable in acute coryza and influenza and in some cases of spasmodic asthma great relief is afforded by gelsemium.

Lumbago, which is really in many cases, a neuritis, has yielded time and again in my practice to large and increasing doses of gelsemium.

I very recently had an opportunity to prove its value in a stubborn case of sciatica which

had resisted various remedies and measures.

It is advisable always when giving gelsemium to keep the patient in a quiet, prone position and its efficacy is increased by so doing.

It has a decided sedative influence in the acute neuralgias and is permanent in its effects.

It does not irritate the stomach nor lower blood pressure, though it slows the heart and lowers the body temperature thereby proving useful often in acute inflammation of the lungs and pleura.

J. T. R.

SCIENTIFIC EDITORIALS.

McFADDEN'S PHYSICAL CULTURE PROPAGANDA.

Bernarr McFadden, physical culturist and athlete, "struck" Louisville last week, enabling the writer of this editorial to form an opinion concerning one who has played quite a conspicuous part along physical culture lines. McFadden is a man of many parts, or supposed to be; physical culturist, editor, lecturer, physical culture physician, and a strenuous opponent to medicine and medical men. Incidental to his lecture, he tries to secure subscriptions to his magazine "*Physical Culture*," and his five volume "*Encyclopedia of Physical Culture*." He has a most excellent optic for the business and monetary side of the work.

I should say McFadden was about five feet, ten inches in height; well built, rather broad of shoulder, deep of chest, and strong of arm and limb. He preaches the gospel of spiritual and physical vitality, but I have not seen a face in a long time that so typically represents the lack of all that he preaches: in fact, his facial expression is dull and heavy. In making his entrances and exits, there are indeed few upon the lecture platform who walk as badly, and whose movements are as ungainly as this preacher of a propaganda of a muscular grace and activity. His voice is deep and has good carrying qualities, but possesses a huskiness of tone that robs it of considerable of its power. His sentences are often incomplete; the ideas are rarely carried to a logical conclusion, and his intonation and delivery are, to put it mildly, very poor. He uses a great many gestures, but they are poorly made, are untimely and seem inexpressive and with no purposeful intent. One would think, after his long years of experience upon the platform, he would have mastered this art of the lecturer and declaimer. When we compare his movements to the finished acting of even the average actor, or if we compare him, for one moment to such men as Wm. Jennings

Bryan, W. C. P. Breckinridge, or other well known platform orators, he suffers badly.

McFadden gives one the impression of being rather a restless, nervous, individual, who passes from one side to the other of the stage, lacking repose and power. In fact, while he possesses *strength*, he seems to lack that *powerful nerve vigor*, that can be quiet or active, as the case may demand. To my mind, he is absolutely devoid of that intangible tangibility, magnetism. In fact, he impressed me as being mentally slow, with the slowness of the strong man but in thought and action. If one takes the trouble to compare him with that paragon of physical development, James J. Corbett, while they are similar in many respects, the difference is marked. Corbett is quick and restless, but he is bright of eye, clear of voice, full of magnetism, and when he does move, his movements resemble the agility, strength and subtlety of the leopard and the tiger. Corbett is full of a wonderful magnetism, and to my mind, he had in his time, the handsomest physical body that my eye has ever rested upon; even in his gladiatorial contests, one could never forget, nor lose the impression that he was "Gentleman Jim."

Physically, McFadden is to me, a unique marvel. I am constrained to believe that every muscle in the man's body is most wonderfully developed. His marvelous nerve control of single muscles and muscle groups, I have never seen on another human being, and I have seen many strong men.

I think he is better developed than Sandow, but he is certainly not as strong, although he did some card tearing tricks that were most excellent "stunts". In his posing, he could do very much better, if he would be a trifle more statuesque. The development of the abdominal and back muscles, baffles description: they were perfect. No one can say that McFadden is not a wonderful man when it comes to muscular development.

His *medical pathology* is a most curious one. Tersely put, it is as follows: If one has a disease, it is a necessary thing, and an advantage, as you get that much (whatever it is) out of your system, as the disease comes from waste. In other words, if you have a cold, you ought to, and should have it, in order to get that much out of your system. And this applies rigidly through his lecture to infections, the cause, origin, course, duration, pathology, pathological anatomy and therapy of which are well known, and fairly fixed. His whole pathology is misleading, farcical, puerile. The origins of disease are errors of diet, impure air, and lack of exercise. Some of his illustrations are in themselves a *felo de se*. For instance, he says that in the New York hospital, they treat diphtheria by regulating the

diet and exposing the patient to fresh air. He failed incidentally to mention that the hospital uses *antitoxin*, his much *hated drugs*, and that the children are superintended by that dangerous class, *medical men*. He says he has had pneumonia five times, has diagnosed it himself without medical aid, cured it by his own measures, that is, by diet, exercise, etc. Argumentatively, if Mr. McFadden has had pneumonia five times, he certainly has not the vitality of the strong man that he represents himself to be, especially, in view of the fact that some of us weaklings, among whom may be classed the writer, have never had pneumonia at all. The whole thing reminds me of the story of the lawyer, who conducted his own case, and realized, alas too late, that he had had a fool for a client. "Get it". McFadden's propaganda is fraught with danger, is false, and apt to do great injury to many people, who might be led away, through ignorance, and at the same time, it is little short of an insult to modern intelligence to refer to doctors as he does, and to advise against their employment in the management and treatment of disease.

There is no question in this world, but what proper diet of good food, freed from the poisons of dishonest manufacturers (*ala Wiley*), properly prepared, in rational quantities, thoroughly masticated, is a good idea to advance, but the question of what diet, both for health and disease is a question for the physician, who must adapt himself to the particular individual. He, speaks of *fresh air*. Says he "dotes" on drafts and that these constitute one of the greatest blessings of fresh air. No thoughtful man that can reason, but will know that drafts should be avoided, that they are not necessary and in no sense of the word do they constitute "fresh air." No physician prescribing "*pure air*," which is much to be preferred to "*fresh air*," would do otherwise than caution his patient against exposing himself in the manner suggested by McFadden. I am a profound believer in exercise; I believe it one of the best methods of preserving health, but the development of muscle *ala McFadden* is totally unsuited for the many business and professional men, who have a living to make in these most hard and strenuous times. Business and profession demand a vast expenditure of nerve force, and all the exercise the average man needs is just enough to keep his muscle loose and firm, his secretions active, and his circulation good. In my opinion, nothing beats walking, deep breathing, or the digging and working in the flower bed or garden.

In my opinion, Mr. McFadden omitted one of the greatest preventative of disease, and the most powerful reconstructive in health and disease known to medical science, namely

tonic hydrotherapy. By tonic hydrotherapy, I mean the judicious, carefully prescribed use of cold water, adapted to the particular case in hand.

In conclusion, it may be said that the question of health getting lies exclusively within the domain of the physician's work, and not in that of a *maitre d'instruction* of physical culture. To put it more plainly, if physical culture is needed, the instructor should be subservient to the doctor, the two working hand in hand. It cannot be said that because a person adapts physical culture to the means in hand, that he does not require other therapeutics, possibly including surgery, simply because he uses one rational means of health getting, and health preservation. In his work, Mr. McFadden assumes more than lies in his legitimate field of activity, and what I have said herein in praise or in criticism is said without the slightest disrespect, but with the firm belief that Mr. McFadden would serve a far more useful and better purpose, were he to link his destinies with the scientific and legitimate practice of medicine.

CURRAN POPE.

FORCEPS IN PERSISTENT OCCIPITO-POSTERIOR CASES.

When the occiput points to either the right or left sacro-iliac synchondrosis and remains persistently posterior, or even shows a tendency to rotate into the hollow of the sacrum, then delivery should be effected by the double forceps application of Scanzoni.

In this operation, complete rotation of the head must occur in the blades of the forceps, from the sacro-iliac synchondrosis to the symphysis pubes and it can be readily appreciated, that if the diagnosis of position is faulty and this rotation is attempted in the wrong direction, that delivery will of course be retarded and serious injury inflicted upon the child. With a proper diagnosis and skillful performance of the operation, it forms one of the most beautiful of obstetrical demonstrations, in that it quickly and safely terminates a condition, that has been causing the patient long hours of suffering and anxiety.

In occipito posterior cases, the sagittal suture is in the oblique diameter of the pelvis, with the small fontanelle pointing towards the sacro-iliac synchondrosis. The diagnosis is evident from finding the large anterior lozenge shaped fontanelle forward at one of the acetabula, the small fontanelle generally being far back and up, beyond reach. The location of the fetal heart sounds in the flank, with the delay in labor, are additional aids in diagnosis. Under all circumstances, however, the diagnosis should be definitely confirmed by palpating the ear when the hand is intro-

duced under full anesthesia for application of the forceps.

The R. O. P. position is the most frequent and the operation in such a presentation will accordingly be described. The cephalic application is the only proper one, the blades grasping the sides of the head by placing the left near the left sacro-iliac synchondrosis and the right, near the right acetabulum, the instruments extending well up, in order to get a firm grasp upon the head. When locked, the handles will point downward and toward the left thigh of the mother. The operator must now remember the normal mechanism of occipito posterior position and must have an accurate picture of the existing condition that he is about to correct, in his mind. It is his object, to bring about descent and then to aid normal rotation of the occiput forward. As is well known, the delay in forward rotation, is due to the fact, that the occiput has not descended far enough.

Traction on the handles is at first made downwards, pressing against the perineum. After a few such efforts, if properly directed, it will generally be found that during the next traction, if a slight rotary motion forward is given to the instruments towards the mother's right, that no resistance will be felt and if that is the case, then the obstetrician continues the rotation during that traction, until he has brought the occiput under the symphysis pubis. The handles of his instruments at the end of this manoeuvre, will be in the median line, pointing forwards and the entire forceps will have reversed, the lock pointing towards the floor.

The sagittal suture is now in the anterior-posterior diameter of the outlet, with the occiput under the symphysis pubis. The forceps are unlocked and removed and then re-applied to the sides of the child's head in its new position. This, the final step in the procedure then becomes simply a forceps delivery at the inferior strait, with the occiput pointing forwards and delivery is conducted accordingly.

EDWARD SPEIDEL.

OSTEOMYELITIS.

Let us understand that this term is applicable to any form of bone infection that involves the medullary substance either primary or secondary. We propose to limit the present study to a view from the standpoint of the essential causes. Any of the pathogenic organisms are capable of producing inflammatory processes in bone as they are in soft tissue and the pathology is quite analogous. The clinical course of bone infection is modified by the variety, virulency and volume of the infecting agent. The clinical history of tubercular infection is characterized by chron-

icity. Syphilitic infection is characterized also by chronicity and formation of gumma. The infection of the more strictly pus producing germs such as the strepto and staphylococci and the colon bacillus are characterized by acuteness. Now the site of infection is also relatively dependent upon the variety of the infecting agent. Thus tubercular infection is most frequently found in the metaphysis in adults, and the spongy portion of the diaphysis in children. Syphilitic infection shows a strong predilection for the osteogenetic layer of the periosteum overlying the shaft of long bones and surface of flat and irregular bones. The pyogenic organisms such as mentioned above show a tendency to affect primarily the interior of the medullary canal. The symptoms of tubercular bone infections have in the past misled many but they are not to be considered as misleading. The greatest misfortune in connection with infections of bone, especially in the neighborhood of joints is the fact that they are treated for long periods under the diagnosis of rheumatism. I have seen a case of tubercular hip joint disease that had been treated for 12 months, for rheumatism.

Pain is the first announcement of trouble. It is most pronounced after exercise and children thus afflicted will show a marked tendency to avoid indulgence in the usual diversions of childhood. Later swelling and tenderness make their appearance. In the case of tubercular infection there is but little redness of the surface over the affected regions. Slight fever is almost always present. There are frequently tubercular foci in other portions of the body. These cases should receive treatment of appropriate kind before extensive destruction of tissue takes place. The technique of the operation would depend upon the site of the infection. In case it is the diaphysis the bone should be freely exposed and a subperiosteal division of the bone should be made through perfectly healthy structure with a Gigli saw and the affected section of bone peeled out from the periosteum. The two layers of the periosteum should then be sutured together making a rather thick ribbon which under the least favorable circumstances can reproduce the bone. In the removal of the section of bone in the manner described it can be separated from the epiphysis below thus insuring the future growth in long axis of the remaining bone. As it is almost invariably in children that the tubercular infection is proximal to the epiphyseal line this becomes a most fortunate circumstance. It is well to remember that in children tubercular investment of bone always occur in the diaphysis line or upon the synovia. It is in primary infections of the synovia that injections of an antiseptic fluid into the joint accomplish

the greatest good. I do not believe that it is worth while where the bone is primarily affected. There are two noted exceptions to the rule of complete excision of infected bone and these are in bones of the carpus and tarsus. When they become infected total ablation of the bone affected is demanded. Excision of the hip is not considered feasible in the majority of cases because of the great difficulty of reaching the affected area.

In adults tubercular infections of joints often occur as miliary tubercles upon the synovial membrane. And later appear in the metaphysis of the one or other or both of the bones entering into the formation of the joint. It is in the event of primary synovial infection that antiseptic fluids injected into the joint cavity early in the course of the disease often affect a cure. But, I repeat, I do not believe much if any good is accomplished by this method when the bone tissue is attacked. Naturally temporary immobilization is a constant aid to treatment of any infected joint. When the bone structure is involved excision of the diseased bone is imperative. This of course results in ankylosis if both bones entering into the joint are thus excised. Particularly is it noticed in connection with knee-joints. But I have excised the head of the humerus and secured an extended range of mobility and a thoroughly usable arm also I have excised the tibia in its lower extremity without interfering with the mobility of the ankle joint and maintaining 75 per cent of its utility.

In the forms of infection characterized by acuteness the original focus occurs in the medullary substance of the pipe bones. This condition is characterized by pain of excruciating character, occurs most frequently in children from 6 to 12 years of age. Although younger and older persons are not immune. The process is a suppurative one and it rapidly converts the bone marrow into pus. Necrosis of the bone does not begin to occur until the pus which is confined in the medullary canal begins to burrow toward the surface and the endosteum is destroyed. At this stage the confined pus finds the place of least resistance in its bony casement and bores through until it reaches the periosteum when instead of boring straight through the periosteum to the muscular planes above, it finds the direction of least resistance between the bone and periosteum. It then travels along the shaft lifting up and dissecting away the periosteum in its path until yielding to the combined influences of tension and sepsis the periosteum break at some point. The pus then pours out into the muscular structure of the limb and appeared upon the surface. Tracing this pathological history through its several stages it is obvious that each stage de-

mands certain special forms of treatment. If the diagnosis can be made (and it surely ought to be) before destruction of endosteum has ensued the problem of treatment is the simple one of drainage.

This can be accomplished by boring into the medullary canal at one or two points along the shaft of the bone. If treatment is not begun before the escape of pus through the bone and beneath the periosteum then treatment consists in an incision sufficiently long to drain the sub-periosteal space, and enlargement of the perforation in the bone to expedite drainage of the medullary canal. In the cases that we see in which sinus is established the pathological conditions of the bone, periosteum and endosteum have become complicated. The resistance of periosteum is so great that it will delay perforation until the pus confined beneath it has brought about, by septic influence, necrosis of extensive areas of bone forming sequestra. A sequestra may consist of the entire shaft of a long bone. The periosteum under the stress of septic irritant thickens upon its fibrous layer and proliferates bone cells upon its osteogenetic layer until it produces a mass of new bone which is much larger than the original. The fatal weakness of bone thus produced is its lack of weight bearing power and the fact that it envelops a mass of necrosed bone. It is poorly nourished, being analogous to exuberant granulations in soft tissue. Treatment in this stage is complex. It should consist in total excision of both involucrum and sequestrum. An ample incision is made over the long axis of the bone down to the periosteum. The periosteum is split and peeled back on either side and sub-periosteal division is performed at each end of the affected bone. Great care should be taken to make the division through the healthy bone if this is not possible the bone should be disarticulated and the entire structure removed. The two layers of the periosteum should then be sutured with catgut and the limb maintained in a position to prevent deformity. The periosteum will reproduce under these conditions, new and healthy bone with ample weight bearing function. I have now in my possession specimens of entire tibia which were removed and have since been reproduced as shown by X-ray photographs which I also have. Both patients have useful limbs. I have entirely excluded the curette and the gouge from my technique of bone lesions.

G. A. HENDON.

OFFICIAL ANNOUNCEMENTS

GOVERNOR M'CREARY'S VETO MESSAGE.

In the following message the Governor disapproves the so-called tuberculin bill:

"Senate bill No. 56 is entitled 'An act to provide for the inspection of bulls, cows and calves, held and owned in this State, for the testing of same, for the destruction of same having tuberculosis, and prescribing a penalty for using reacting animals for dairy purposes.'

"This is one of the most important bills enacted by the Legislature which recently adjourned, and I have given it careful and thorough examination.

"One of the greatest problems confronting the people is the increasing prevalence of tuberculosis among cattle and human beings.

"A careful estimate made by the writer for the international congress on tuberculosis for 1908 shows that tuberculosis of animals exacts a total of over \$23,000,000 annually. Of even greater moment than this tremendous economic loss is the sacrifice of human life and the impairment of human health from tuberculosis, almost universally regarded by scientific educators as due to a considerable degree from tuberculosis in animals from which milk and other foods are derived.

THE TOLL IN KENTUCKY.

"Vital statistics show that 5,181 people died in Kentucky from tuberculosis last year, and it is estimated that there are now 15,000 cases yet living in Kentucky who have this disease, and tuberculosis is usually contracted in the intestines of both adults and children through the use of infected milk.

"No one who is informed on this subject can fail to realize that every proper effort should be made to check the spread of tuberculosis, and no appeal should be heeded more promptly than that now being made in behalf of the health and life of human beings, and in favor of the extinguishment, as rapidly as possible, of this terrible disease.

"It is a well-established fact that all the germ-producing diseases come from a germ, which, if it be planted in the body of human beings, will likely take root and grow, and multiply to an extent that will poison the individual and ultimately destroy life. A germ of tuberculosis from a cow, if it gets in the milk and then into the stomach of an infant or adult will grow and multiply, and produce the deadly disease known as tuberculosis.

In July, 1909, the State Board of Health issued a proclamation setting forth certain

regulations. One of the regulations was as follows:

"'No milk shall be permitted to be sold or disposed of in the State of Kentucky unless the cows producing the same shall have been tested and show reaction to tuberculin.'

"This regulation was earnestly opposed but the Court of Appeals of Kentucky (the whole court sitting) sustaining the law unanimously, and in one sentence of the decision declared:

"'Better kill the cows than kill the children.'

LAW ON STATUTE BOOKS.

"We have had in Kentucky for the last eighteen years a law on the subject of contagious or infectious diseases affecting cattle, which can be found in Chapter 5, Article 2, Sections 48 to 63, inclusive, which has given great relief, and has operated to the satisfaction of experts and those well-informed on the subject of tuberculosis and cattle diseases, which, according to the statistics of a number of our best surgeons, physicians and veterinarians, is preventing or stamping out tuberculosis and other cattle diseases.

"Senate bill No. 56, now under consideration, changes this system and the treatment which has been successful for so many years, and leaves the matter of inspecting cattle to the discretion of the Fiscal Court of each county, and the application of the tuberculin test is made a question of arbitration between a veterinarian appointed by the court and one representing the owner of the cattle; a third veterinarian to be employed where there is a failure to agree, who must be a resident of the neighborhood. Between the discretion of the court and the arbitration of veterinarians much time would elapse, and the possibility of no satisfactory action would be great.

"Under the law, which has been in force for eighteen years, a board thoroughly competent and experienced, with authority to obtain the services of veterinarians in the employ of the United States, and otherwise co-operate with the proper departments of the Federal Government and persons appointed by the Governor to act with the board, and with authority, with the approval of the Governor, to use not exceeding \$3,000 per annum for the purpose of paying for such cattle as may be condemned and slaughtered, have been doing effective work, so that tuberculosis has entirely disappeared in various sections of the State, and has been greatly improved in others.

"So much interest, so much feeling, and so much excitement have been aroused, that I, as Governor, take hold of this subject with some anxiety; but I feel that I should do my duty in the interest of the people, and the health and life of human beings should not

only be considered first, but they should be protected first at all hazards.

PROVISIONS OF THE BILL.

"Senate bill No. 56 provides as follows:

"Section 1—The Fiscal Court of each county in this State, upon the recommendation of the County Board of Health in such county, or upon the recommendation of the General Council of any city or town, may select a duly qualified veterinarian in such county, whose duty it shall be to examine and inspect, once in each year, all bulls, cows and calves held and owned in such county, at the expense of such county, for the purpose of detecting tuberculosis among same, and to apply the tuberculin test to such cattle owned and held in such county in the State of Kentucky, at the expense of such county, provided such veterinarian, selected as aforesaid, shall discover evidence of the existence of tuberculosis in such cattle in said county, proposed to be tested. If the owner of such cattle, proposed to be tested, should object to such test being applied, upon the ground that such cattle do not show physical evidences of tuberculosis, then said owner shall have the right, at his own expense, to designate a veterinarian to examine such cattle; and if the said veterinarian so selected agrees with the said veterinarian representing the county, that such cattle show physical evidences of tuberculosis, then said cattle shall be tested with the tuberculin test; but in the event said veterinarian does not agree with the veterinarian selected by the Fiscal Court, that there are physical evidences of such disease, then said two veterinarians shall thereupon select a third veterinary, who resides in the neighborhood where said cattle are located, who shall examine said cattle; and the decision of said third person so selected shall be final as to whether or not physical evidence of the existence of such disease exist. The owner of any animal or animals reacting to the tuberculin test, and showing physical evidence of tuberculosis, may, in the discretion of the veterinarian selected by the Fiscal Court, as aforesaid, be given a reasonable time in which to prepare such animal for slaughter, provided said animal is isolated from other cattle (of the same kind), if such reacting animal, in the opinion of said veterinarian, would, when slaughtered, be fit for food; but, if such animal, when slaughtered, would not, in the opinion of said veterinarian, be fit for food, then the same shall be destroyed at the expense of the owner thereof."

Section 2 declares:

"That hereafter the State Board of Health shall not apply, nor cause to be applied by any officer, agent or employe, the tuberculin test to bulls, cows or calves owned and held in this State."

"Section 2a declares:

"That no city nor town shall apply or cause to be applied by any officer, agent or employe, the tuberculin test to bulls, cows or calves owned or held in this State or require same to be applied, except as indicated in Section 1 hereof, to any cows from which milk or other dairy products are furnished to said city or town."

WOULD ANNUL OLD LAW.

It will be seen that Senate bill No. 56 annuls the law which has been in force so many years, and that the board which has had so much experience and which has so successfully fought tuberculosis and applied the tuberculin test is deprived of the power and authority under the law which it has so long exercised; and it will also be seen that cities and town that have been so well protected and from which tuberculosis has been entirely eradicated are, under the proposed law, deprived of the safeguards and protection heretofore enjoyed.

"It should be observed that the bill under consideration provides that, in the event of disagreement between the owner of a cow and the county veterinarian, selected by the Fiscal Court, as to whether the cow shows evidence of tuberculosis or not, the owner shall have the right to select another veterinarian to examine the cow. If these two disagree they shall then agree upon a third veterinarian who resides in the neighborhood where said cattle are located, who shall examine said cattle, and the decision of the third person, so selected, shall be final as to whether or not physical evidence of disease exists.

"In the 120 counties of this State there are not more than ten counties in which this section of the bill could be carried out, where three qualified veterinarians could be found. In the majority of the counties of Kentucky there are no qualified veterinarians.

"It should be observed also that the bill under consideration required the veterinarian appointed by the court to discover physical evidence of the existence of tuberculosis in the cattle before he is authorized to take any action whatever.

TUBERCULIN TEST RELIABLE.

"It is a well-settled fact that tuberculosis cannot be recognized in cattle during the early stages, and, in fact, it cannot be detected physically until it is in the very last stages, and has been spreading the germs of the disease for one or two years. Drs. Melvin and Hickman, who have had a large experience in examining animals which were slaughtered after the tuberculin test, and who are accepted authorities on this subject, say it is impossible to detect tuberculosis in cattle ordinarily by physical examination. The tuber-

culin test, in the hands of a competent and experienced man, is declared by all authorities to be more accurate than any other method of detecting tuberculosis; the Government records show that it is accurate in 98 per cent. of the reactions obtained, and it does not harm healthy cattle.

"The following statement made by members of the Lexington City Board of Health, is conclusive on this point:

"Acting as committee from Lexington City Board of Health to investigate most advanced and practicable health methods, we have given careful attention at the National Capital to milk control, including the tuberculin test. We have carefully gone over the facts among the actual workers in the Public Health and Marine Hospital Service, Bureau of Animal Industry and Washington City Health Department, and find these workers unanimous on following points:

"A—Milk from tuberculosis cows can and does infect children, especially babies. The infection so produced is often latent, but may break out in virulent form in latter years.

"B—Physical examination, while necessary, is wholly insufficient to detect many cases of actual virulent tuberculosis in cows, and the tuberculin test is the only safe and reliable test now known.

"C—Ten dairy herds in the District of Columbia, which passed a physical examination, were found to be supplying tubercle germs in the milk capable of producing tuberculosis.

"D—The tuberculin test, according to Dr. Melvin, Chief of the Bureau of Animal Industry, has eliminated tuberculosis from the dairy herds of the District of Columbia.

"W. O. BULLOCK,

"N. R. SIMMONS,

"R. M. ALLEN."

OTHER TESTIMONY.

"I received to-day the following letter signed by the Commissioner of Agriculture of Tennessee and the State Livestock Inspector of Tennessee:

"A copy of Senate bill No. 56, now pending in your General Assembly, has been received by this department. We have carefully examined said bill and consider it a step backward in livestock sanitary control work and have no hesitancy in saying should said Senate bill No. 56 become a law we will at once promulgate a rigid quarantine order against the State of Kentucky until such time as this bill is either repealed or revoked. We trust you may see your way clear to prevent this bill becoming a law.

"(Signed), T. F. PECK,

"Commissioner of Agriculture,

"G. R. WHITE,

"State Live Stock Inspector."

"I know of no higher authority on pure food, drugs and health than Dr. Harvey W. Wiley, who for many years has been Chief Chemist of the Bureau of Chemistry in the Agriculture Department at Washington. In a letter received by me from him he said:

"My attention has just been brought to an act which has passed the Kentucky Legislature regulating the inspection of dairy herds and milk in the State of Kentucky. I hope I may be able to reach you with this letter before you make up your mind to sign this bill. It seems to me that it is one of the most objectionable pieces of legislation that it has been my ill fortune to ever see. It takes away from the State Board of Health authority for the inspection of herds of cattle and places it in the hands of veterinarians selected in each county and not one of whom may be an expert in such matters. Further than that it is very likely that there are many counties in Kentucky where registered veterinarians with an expert knowledge do not reside and in such counties no inspection could be secured. Worse than this, it provides that no inspection shall be applied except where there are physical signs of disease which are unmistakable. Experience has shown that very few cows will reveal their tuberculosis condition to a physical inspection, but that these animals when subjected to the tuberculin test or when slaughtered are found to be seriously affected with the disease. The difficulties of securing an inspection in the way the law proposes are extremely great. Instead of having one competent board—namely the State Board of Health—to supervise it, there would be one for each county, and it stands to reason that most of them would be highly inefficient and unfit for the service. Still more objectionable is that part of it which deprives the State Board of Health of its present power and especially that section which will prevent any town or city of the State of Kentucky from protecting itself against tuberculosis milk.

"(Signed),

H. W. WILEY."

"I have received petitions from boards of trade, commercial clubs and individuals scattered throughout the State, protesting against Senate bill No. 56, but I will not include them herein.

"The Legislature of Kentucky at its last session enacted a law providing for a State Tuberculosis Commission. I regarded that as splendid and necessary legislation and I approved the bill; it marked a new era in the intelligent care for the health of the people; but many benefits promised in that legislation would be counteracted if the bill now under consideration should become a law.

"For the reasons herein stated, I cannot sign Senate bill No. 56 and I disapprove it."

ORATION IN MEDICINE

MEDICAL IDEALS FOR THE EVERY-DAY DOCTOR.*

By W. W. ANDERSON, Newport.

The ideals of to-day are the history of tomorrow in the embryo.

Who better than the man of medicine have high ideals? Who better than he may anticipate the history he is helping to make? Who may look back to the history of the past with such pride in his profession? If we may judge the future by the past, if the deeds that men have done are a guide to what they may do, if the record of other days is an inspiration for days to come, if a noble heritage oblige us to nobility, then how great heritage debt to the past! How deep is our duty to the present! How lofty is our inspiration for the future!

Every great movement for human welfare in promoting health and vigor has been instigated, advocated and carried to success chiefly by the medical profession to its own great loss, and often in the face of bitter opposition from the people who were to be benefited. The whole pathway of medical research and progress is marked by the bloody footprints of the martyrs of science—a noble martyrdom as lofty as any the church can boast. Vesalius was persecuted because he dared to study the dead body that he might know and heal the living. Jenner was ostracised and pictured as a devil incarnate. Harvey was described as an infidel. McDowell was threatened with criminal prosecution. Jeffries was mobbed. Flexner is branded a monster. Carroll, Lazear, and others, died to prove the cause and secure the prevention of yellow fever, and the government took twelve years to grant a widow's pension for the service.

No other calling or profession has such a record of constant and unselfish devotion to humanity. When the great Judgment Day shall come, Medicine may stand erect and humbly unabashed, while even the Law and the Church must hang their heads, for Medicine has always been the friend of the people. The Law, designed to safe-guard the liberties of man, has often riveted the fetters of his slavery; and the Church, ordained to give men that highest truth which shall make them free, has at times so far forsaken her high behest as to declare the cruel yoke of the oppressor holy and heaven-sent. No such charge can be sustained against the healing art.

Does some one say "How about the quack doctor?" How about that insatiate vampire

that lives by the blood of its victims—that unmitigated villain who robs the foolish and the suffering of money and of life itself? Are we charged with his deeds? Better charge Christianity with the hypocrite. For have not we cast out the quack? Have we not ostracised him? He is none of ours. And when we have done with him, has not the protecting arm of the Law been thrown about him and is he not received into the bosom of the Church? Does he not sit in the congregation of the saints, and do not even your religious papers befoul themselves with his lying and disgusting advertisements? Have not the courts again and again given him the advantage of every known technicality and quibble that he might not have impaired his most sacred liberty of fleeing the people? No, he is none of us. Some of us have been regarded as unorthodox in religion because we found difficulty in believing in a burning hell; but we are coming around all right. We had to put fire and brimstone back into our creed, for we had no other suitable way of finally disposing of the quack doctor.

What is the spirit that animates the medical mind and must always animate it from time immemorial unto the end of history? Not the greed of gold. The average annual income of Kentucky physicians (and they are as good as others) is less than \$1,000. There is hardly a doctor anywhere in the profession who could not instantly double his income, if he but adopted a code of morals that is daily in practice and accepted in the business world. Not the fanfare of fame. Even the greatest among us will be overtaken by his epitaph long before his name is heralded among the people. Not the pride of power, for such power as the doctor attains is exercised for the public good, hampered by political and personal indifference or hostility. Ask Dr. Wiley about power. And yet Medicine goes on healing and preventing diseases, in the main unmindful of money, forgetful of fame, and puny in power.

Do you remember Him who looked down from the slopes of Olivet on the holy city, and wept, and how He stretched forth his hands and said: "Oh! Jerusalem, Jerusalem, thou that killest the prophets and stonest them that are sent unto thee, how often would I have gathered thy children together even as a hen gathereth her chickens under her wings and ye would not!" These were the words of Him who was known as the "Great Physician." If the humane and benevolent spirit that pervades the medical profession could be gathered into one great personality, then would that great beneficent soul of Medicine look down on the suffering world and weep, saying: "Oh, erring sick, and sorrowing humanity! How have I longed to bestow on you

*Oration in Medicine, Kentucky State Medical Association, Paducah, October, 1911.

the boon of health and vigor and life abounding and ye would not!"

Your call to the service of the healing art is not the call of wealth, or fame, or power, or popular favor, or personal aggrandizement, or social distinction, or ease, or comfort, or long life. It is a call to war; a life-long enlistment on the side of humanity in its grim struggle with disease and death.

Man enters the world wailing and leaves it with a moan, and punctuates the journey from the cradle to the grave with many a cry of distress. He who deftly launches the traveler on the sea of life, who safely pilots the voyager through its storms and stress, making him fit for his seamanship until his bark is gently beached on the shores of eternity, has a great office to fill. So to conduct the advent of a new life as to make it safe in itself and free from damage to its maternal source is an important duty. To act as the counselor and guide of that new life in all matters physical, and to have a large share in shaping its mental and moral destiny, is a great task. To marshal the vital forces of that life and take command in its fierce battles with disease and death is a large responsibility. So to lead that life as to free it from self-destroying follies and lift it above foolish fears and superstitions, clearing the way for the development of its best powers and promoting its efficiency, is a lofty labor.

This is the work of the every-day doctor and it is a man's work, worthy of great men for its doing.

Man is never born great except potentially; nor can true greatness be thrust on him. It can be attained only by achievement. The man who habitually and heartily measures himself against the task before him is sure to

"Grow each day and hour

Into his life's potential power."

And the limits of that power, even to the every-day doctor, who shall set?

Our task calls for the active, attentive use of our best powers. We are not only to perceive what is thrust on our senses but to seek; not only to know what is forced on us by sight or hearing, or contact, but to look, listen and feel. The amount of knowledge acquired by the senses, its clearness and its permanence will depend largely on whether the senses are actively seeking knowledge or only passively receiving it. The same is true of the other faculties. If we allow our minds to drift and our conclusions to form themselves, they will be shallow, uncertain and unsafe. The matters we are called on to judge are far too important for this. They demand that our judgments be based on broad and thorough observation, careful comparison, and sound reasoning, the result of trained faculties actively at work. The best trained mind is that one

which, in the largest percentage of instances, automatically does its best, which does not need to be whipped up in each case to do good work, but has made thoroughness a habit. There are great difference in the original endowment and in the training of medical men, but these differences are not greater than those which result from experience. A man will either use and thereby improve his talents, or neglect and lose them.

The every-day practice of medicine is eminently fitted to the most of any man if he but gives himself devotedly to the work for its own sake. Herein lies a large hope for the every-day doctor and the mediocre man. Look at the illustrious names that adorn the pages of medical history. It is nowhere recorded that they were born great. Their glory was not gratuitous. Their schooling was not superior. Their opportunities were not larger. But they had great problems to solve even as others. They had mighty difficulties to overcome even as all physicians. They had sore needs to supply, even as you and I. And they measured their littleness mightily against the mighty force of ignorance, disease and death. They realized the worth of the physician's work and labored worthily. As workmen needing not to be ashamed they lived the every-day life on a high plane. With extraordinary energy they attacked ordinary duties. With uncommon concern they cared for their common cases. With patient persistence they solved and proved their problems. With a devotion to duty amounting to a holy zeal, they loved even their unlovely tasks and performed them with a thoroughness that lifted their common lives above the common things of life and grew in them the character that challenges the admiration of the world. Out of the every-day of life came to the medical profession a John Hunter, an Ephraim McDowell, a Robert Koch, an Oelsterlony, an Osler, a Murphy, a Mayo, and a multitude of others; and by what means? Can you imagine Laennec making a chest examination through a silk waist? Or Trousseau content with feeling the pulse and looking at the tongue? Or Sims satisfied with the surgery of his day? Or Cabot taking the patient's word for a diagnosis? Or Gorgas accepting his office as a sinecure? These are they that "waxed valiant in fight, out of weakness were made strong."

The every-day doctor may feel that they were men of very large natural ability and that we are not to be measured by them. They were giants, and we may be pygmies, but, mounting to their shoulders, we can see further than they. It is not necessary that we be great; it is necessary that we be faithful. The great men of medicine did not start out to

become great or famous; they simply did their work well and grew; for they had at hand the very best means of growth, even as you and I. They sat at the feet of the masters in studying their works, even as you and I are privileged to do. They touched hands with the best men of their day in their journals and associations, and much more may we. The race-long cry of suffering humanity assaulted their ears, as it comes to ours, and they set about its relief without stopping to appraise its money value or its offering of fame.

If any man in medicine will do that, the time will come when the profession, if not the whole people, will discover developed in him whatever greatness was potential in his endowment. Only let him not be easily content with present attainment. Let him feel that he has matriculated for a life-long course in the great university of practical experience, where every patient is a study, where every symptom is to be searched out and traced to its origin and weighed as to its significance, where every examination is an exercise in skill, every operation a training in technique and every prescription a drill in sound therapeutic reasoning.

The school of experience is proverbially expensive. The patients of the thoughtless doctor will find it doubly so; for he goes on repeating the same blunders, overlooking the same observations, reaching by the same reckless reasoning, the same careless conclusions, doubtful diagnoses, and "shot-gun" and unknown ready-made prescriptions. Such a man, profiting little by experience, drifts or blunders through his own and his patient's lives from his observation of obstetric positions as "head-first" or "feet-first" to the death report of "old age."

The great minds of medicine were not so made, nor did they come by chance. The practice of medicine has never been greatly raised by accident or freaks of fate or strokes of genius. The great men of medicine were just hard, earnest and capable workers. They grew great by growing into the greatness of their task.

There is need that medicine grow into the greatness of its task. Great things have been accomplished, but greater remain to be done. There was a time when epidemic disease swept over the face of the earth like a devastating frost and human life withered before it like the flies. Well did the psalmist speak of "the pestilence that walketh in darkness" and "the destruction that wasteth at noon-day." For the tragedy of bubonic plague, smallpox, syphilis, cholera, malaria, yellow fever, diphtheria and cerebrospinal meningitis are written large in the closed chapters of history.

Medicine has done so much that we occas-

ionally hear the opinion expressed that the doctor will soon lose his occupation entirely by reason of medical advance. That were indeed a consummation devoutly to be desired, but offering no early hope of attainment; for every great discovery in medicine has opened to the doctor a dozen doors of opportunity for every one it has closed.

Phagocytosis, so far from being a finality on resistance, has opened to view a long vista of agglutinins, opsonins, lysins, bacterins, vaccines, side-chain theories, complements, etc., and the end is not yet.

Ehrlich presents a new remedy which may cut short the prolonged treatment of syphilis, but in so doing he opens to research the great field of chemotaxis.

Lord Lister developed antiseptic surgery and so far from finishing surgery, it has filled the world with surgeons.

Medicine still has a great field for advancement. Tuberculosis has not surrendered. Measles and whooping-cough are still serious and universal scourges. Cancer remains the scandal of medicine. Gonorrhea and wild oats continue to be sown together and to yield their bountiful crops of disaster. The field of mental and nervous disease is still largely a jungle of unknown horrors. The internal secretions are unsolved problems. Auto-intoxication is only a tattered cloak for our ignorance. Pneumonia baffles us very much as it did the doctors of ten centuries ago. The acute and chronic joint inflammations and degenerations are in a blur of uncertainty. Kidney disorders and arteriosclerosis await elucidation. There is much territory for medicine to explore and still more to conquer.

Great as is the call for the advancement of our science, the demand for improvement in our practice is still greater; for our science is eagerly and earnestly using every means at its command to solve the mysteries of the unknown, while our practice is falling far short in applying the truths already revealed.

When the science of medicine has presented a new means of accurate diagnosis, or developed a better treatment, or evolved a surer prognosis, or offered a safer prophylaxis, it would seem reasonable that these discoveries should immediately appear in practice and rapidly become universal in use. It would appear natural that the science and the art of medicine should walk hand in hand; that theory and practice should keep step in the onward march of medical progress.

The world has a right to expect much. If my child is ill or injured, I desire that the art of medicine, as practiced at his bedside, shall apply the best that world-wide medical science has to offer, and I hear the voice of one

saying, "Whatsoever ye would that men should do to you, do ye even so to them."

In only one department of practice is our art following closely in the footsteps of science—the department of major surgery. The other specialties are lagging noticeably, and general practice (the work of the every-day doctor) is so far in the rear as to create some doubt whether he belongs to the profession or only happens to be traveling that way.

The surgeon leads because his work is spectacular and is done in the lime-light of publicity; because it is constantly reviewed under the fairly competent criticism of the general practitioner; because it commands a fee that supplies the means of good work; and because the surgeon occupies a limited field which he can cultivate intensively and in which he can keep up to date and become highly proficient. The same reasons hold good, but to a lesser degree, in the case of the specialists. The work of the every-day doctor is of the every-day of life, attracting little notice and reviewed by no authority nearer than the recording angel, or more capably critical than his own conscience. If well done, it is shamefully underpaid, and his field of labor is so extensive that intensive cultivation, proficiency, exactness, and keeping up to date, are impossible. Not much is exacted at the hands of the every-day doctor. His clientele does not require much and is not competent to judge whether he gives little or much. The demands of the law are small, only asking "ordinary care and diligence" and conscience is almost as easily satisfied.

But there is a call to higher things and eager men will harken, earnest men will hear, and honest men will heed. It is heard in the voice of scientific medicine, whose every established truth is a prophecy of good to humanity that pleads for fulfillment. It speaks in the tones of the healing art as she asks that the most beneficent task ever entrusted to human hands be well done. It comes to us in the world-old and ever-present cry of human need. It makes its mute appeal from the silent graves of the untimely dead that ask of us their rightful years cut off. It challenges us in the words of Him who said "What do ye more than others?" It upbraids us with the dupes of quackery, 99 per cent. of whom have slipped through our hands unhealed and unsatisfied. It stirs in the life of every man whose heart throbs with the joy of battle and whose mind is uplifted by the power of the ideal. What shall be the response of the profession and especially of the every-day doctor?

If we are to share in the conquests that await the advance of scientific medicine, it is necessary that we be equipped with broader knowledge, surer skill and riper wisdom.

The physician is in need of a broad general knowledge of the whole medicine. Only so can he escape the egregious blunders that grow out of narrowness of training or experience. Disease is not so exact in localizing itself or its manifestations as to warrant exclusive specialism. Every one of us should be able to see and understand far more than we can do. We may not be able to make a blood-count, or handle the X-ray, or use the cystoscope, or analyze the stomach contents, or remove an appendix or definitely determine a heart lesion, but we should know the principles on which each of these procedures are based, the field for usefulness of each, and the man who *can* do the work; and that man ought to be in easy reach.

The man of widest knowledge in medicine to-day is the every-day doctor in general practice, and yet the times demand even of him that he broaden his field of vision. Even more insistently does the times demand that he narrow his field of work. Medicine has grown far too great for one man to cover the whole field and do it well. The every-day doctor has undertaken too much and the consequence is that he cannot give, in many of his cases, the efficient service that present medical science demands. Nor can his efficiency command the fees that the specialist receives and deserves.

The every-day doctor must do some specializing. He ought to serve his patients in every case in which he is prepared to render as good service as is available to them. If, in addition to this, he will devote himself to the special study of the chest, he will in time become the neighborhood expert in that field. If his medical confreres will do likewise for the alimentary canal, the genito-urinary tract, nervous disorders, pediatrics, general and emergency surgery, etc., each will finally become the local authority in his particular field of general practice. He will then be able to render a better service in some one line and to command a better fee because he will be worth it. His colleagues, recognizing his special ability will call him oftener in consultation, thereby giving their patients a better service, the doctor a better income, and the profession the uplift of a better mutual understanding. At present we are confronted, in every well-populated community, with the paradox of too many doctors and too little efficiency of medical service. Let the every-day doctor, without giving up his general practice, specialize in some department of his work and this disgraceful paradox will tend to correction.

Consultations ought to be more frequent, and they would be if some near-by doctor were fitted to act as consultant. If the every-day doctor would so fit himself, he will improve his

standing in the profession, increase the respect in which he is held by the public and, what is equally as important, enhance his own self-respect.

It is not necessary or desirable that the every-day doctor undertake to displace the present-day specialist; nor ought he to look with envious eyes on the opportunities and privileges the specialist enjoys, for the narrow garden spots of specialism are well occupied and cultivated almost to the limit of productiveness, while the broad fields of general practice, now neglected, are fallow and inviting to intensive cultivation.

The greatest opportunities in the healing are to-day are waiting at the hand of the general practitioner; 95 per cent. of practice applies first to him and it is his to take what he will, his to have and to hold, if he will but prove himself worthy to have and competent to hold. Only let him not try to grasp everything, lest he show himself unable and unworthy to hold anything. Let him select so much and such kind of practice as he can serve with adequate art, commensurate with the best medical science has to offer. In cases in which his knowledge or skill are not up to that standard, let him seek aid in consultation, or send the patient to the man who can render the necessary service.

When the every-day doctor has learned to excel himself and others in something, he will begin to experience the pleasure of leadership, the distinction of success, the joy inherent in good work well done and the profits that in time accrue to worth.

When by doing less he has learned to accomplish more, when his skill in something has made him unwilling to do anything unskillfully, when his art is treading on the heels of science, then will medical science hurry forward to new conquests and the spirit of the healing art will go forth among the people who too long have "suffered many things of many physicians" in vain, and many will touch the hem of her garment in well-founded faith and be made whole and Medicine will find her rightful place in the esteem of men. Is this too good to be true? The answer rests with you and me, for in the Providence of God and the progress of medicine, there is nothing too good to be true.

Large Bilateral Bartholin Cysts.—Weiner's case presents a number of interesting features, the fact (1) that the cysts were bilateral; (2) their size, 118 and 125 cm., perhaps the largest on record; (3) the marked distortion and stenosis of the introitus, and (4) the rapid growth during pregnancy. This last feature is explained by the occurrence of hemorrhage due to the local congestion incident to pregnancy and the trauma of attempts at coitus.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicines. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A. Council on Pharmacy and Chemistry for inclusion with "New and Non-official Remedies." Under "Reform in Medicines" appear matters tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

THE VALUE OF PERISTALTIC HORMONES.

C. D. Aaron discusses hormones in general and the peristaltic hormone in particular. In regard to the latter he says (*Jour. A. M. A.*, Feb. 10, 1912, p. 407):

The peristaltic hormone has the capacity of stimulating the peristalsis of the intestine. It was found at first in the mucous membrane of the stomach, later in abundant quantities in the spleen; and it has been used in chronic constipation and in acute paralysis of the intestine. But the treatment is not altogether without distress, for it frequently causes pain and fever. If used for therapeutic purposes this peristaltic hormone must be introduced intravenously or intramuscularly and its absolute sterility must therefore be made certain. It has, in fact, been found that its intramuscular introduction produced pain and a rise of temperature, and the intravenous method is being preferred owing to the fact that it reduces the pain, fever and discomfort to the patient.

The observed fact that the hormone stimulates intestinal peristalsis, led quite naturally to its employment in chronic constipation. In spastic constipation we have an overstimulation of the intestine and the use of the hormone in such cases is, of course, irrational. In the atonic form, however, the hormone becomes valuable. Zuelzer reports success in 71 per cent. of many cases of chronic constipation, in which evacuations had previously not been possible for a period of years without cathartics or enemas. He feels himself justified in urging that, in the light of the discovery of the peristaltic hormone, the whole subject of constipation be revised. He suggests two theories with regard to the nature of the

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

therapeutic effect of the peristaltic hormone. In the first place, in cases of chronic constipation we have a complete absence of the normal production of the peristaltic hormone or a quantitative insufficiency of it. When peristaltic hormone is introduced, it stimulates the beginning of a normal elaboration of it in the body. And in the second place, it may be that the stimulus for the start of the intestinal peristalsis in atonic chronic constipation is produced when the hormone is administered, by the intervention of the nervous system. The hormone may exert a specific stimulant action on the abdominal ganglia. The ability to convey the stimulus may have been disturbed or dulled. An artificial saturation of the organism with peristaltic hormone may vigorously stimulate the nerve-cells and enable the body to react again to the normal stimuli.

Zuelzer uses 40 c.c. of peristaltic hormone for an adult and 20 c.c. for children. The injection is made only once and the median vein is the best place for it. The skin is prepared aseptically and an Esmarch bandage applied on the upper arm to make the vein prominent. The fine needle of the syringe is introduced into the vein, the Esmarch bandage loosened and the contents of the barrel of the syringe are slowly forced into the vein. The needle is removed and a slight pressure with gauze is applied to the point of entrance. A small piece of adhesive plaster is then applied. Usually no reaction ensues. It is advisable to follow up the injection with one dose of castor oil. It serves as a lubricant while the hormone induces the normal peristaltic action. As against other remedies employed in chronic constipation, the peristaltic hormone has the superior merit that, having started evacuation, there is no need to inject more of it.

Henle, Saar and Unger studied the action of peristaltic hormone, in postoperative intestinal paresis, in the case of epileptics who had previously suffered from chronic constipation, and in the case of an almost moribund patient, with total intestinal paresis, with intestinal loops partly obstructed by inflammation, and proved that the peristaltic hormone is an innocuous substance. Several cases of ileus, in which intravenous injection of the peristaltic hormone was made in patients who were advanced in years, and who had some time previously been operated on, show that peristaltic stimulation produced by the hormone is not violent and causes no grave disturbance even if there is organic derangement and obstruction.

In view of the optimistic opinion apparently held by Aaron it should be noted that in connection with the discussion of the proprietary preparation, hormonal, in New and Non-

official Remedies the Council cautions that the use of peristaltic hormone is still in the experimental stage.

MRS. EDDY AND THE NATIONAL LEAGUE FOR MEDICAL FREEDOM.

Mrs. Mary Baker Eddy, the founder of Christian Science, years ago, forbade her followers to enter into any league with "occultists, mesmerists and vendors of patent pills." If she were alive to-day, she would undoubtedly have prevented the organization of which she was the head from making the fatal tactical blunder of an alliance with the pseudo-medical cultists, sectarians and faddists, patent-medicine fakers, food adulterators and quack doctors, who go to make up a part of the motley crowd which calls itself a "League for Medical Freedom." This injunction on the part of Mrs. Eddy, evidently overlooked by her successors, has been pointed out by Mrs. Augusta E. Stetson, insurgent Christian Scientist and ex-reader in one of the leading eastern churches of this cult. Mrs. Stetson says, according to Rochester (N. Y.) *Evening Times*, that such an alliance is in direct violation of the injunction of the founder, who wrote, "By rendering error such a service, you lose much more than can be gained by mere unity on the single issue of opposition to unjust medical laws." It has been recognized for some time that the alliance of "Christian Science" with all sorts of medical fads and fakes was rendering error a great deal of service. In fact, it has generated about as much error as a single organization possibly could. Whatever one may think of Mrs. Eddy's religious and philosophic vagaries, no one familiar with her life has ever questioned her practical shrewdness and far-sightedness, says *The Journal of the American Medical Association*. That those who have succeeded her as leaders are not her equals is not strange. History is full of causes and crusades which, after the death of the prophet who inaugurated them, went to pieces through the blunders of disciples who succeeded to the leadership.—(*Jour. A. M. A.*, Feb. 24, 1912).

BODY CELLS AND FOOD SUBSTANCES.

"The cells of our body never learn what the character of the food which we eat really is." With this sentence delivered at a recent meeting of Swiss men of science, Professor Emil Abderhalden has concisely defined a modern view-point of nutrition which is rapidly becoming prominent. Before they leave the alimentary tract the foodstuffs which we eat are broken up into fragments that serve as the real food of the body. Complex carbohydrates are resolved into sugar; fats are split

into glycerol and fatty acids; proteins yield an aggregation of characteristic substances. Indeed, the main function of digestion, according to *The Journal of the American Medical Association*, is to put these comparatively simple "building-stones" at the disposal of the internal tissue cells so that they can select, or further rearrange them as the special functions require. Whether it is meat or cereals that we eat is, after all, largely a matter of indifference, for they all furnish similar digestion fragments, so long as the digestive process perform their duty.—(*Jour. A. M. A.*, Feb. 24, 1912).

ANESTHESIA AND ANESTHETICS.

Probably the first successful local anesthesia was produced by the use of ice, or salt and ice. The next step in local anesthesia was the freezing with ether of the part to be operated on.

A later remedy included in the same category of freezing mixtures is ethyl chlorid. This is offered under the proprietary name Kelene. When this is opened, the container being held in the hand, the warmth of the hand heats the ethyl chlorid in the bottle so that it emerges from the metallic opening in the form of a fine spray, which, when held several inches away, freezes the part with which it comes in contact.

Local anesthesia did not attain very marked popularity, however, until Koller, in 1884, demonstrated many of the anesthetic properties of cocain, particularly its action on the mucous membranes of the eye. Many experimenters followed the lead of Koller and extended their experiments in many directions. It was soon found that while solutions of cocain obtunded the sensibility of mucous membranes, they had no effect on the unbroken skin; but injected beneath the skin by means of a hypodermic syringe they produced abolition of sensation.

As the knowledge of the action and effect of cocain increased, it was found that, if used too freely, it often produced alarming symptoms. This was especially the case when the drug was administered hypodermatically. It was then soon discovered that if the circulation of the part to be operated on was brought to a standstill by the application of bands, applied for instance around the limbs, if that happened to be the seat of operation, a smaller quantity of cocain was necessary to bring about anesthesia, the anesthesia continued longer, and if the circulation was then restored gradually, the effect of the drug on the entire body was less likely to produce unpleasant symptoms.

At first the strength of cocain usually employed was a 4 per cent. solution in distilled

water. Later, it was found that a 2 per cent. solution was effective, and still later solutions of less than 1 per cent. were found to act satisfactorily.

Still further observations with cocain and other local anesthetics led to the conclusion that often the sensibility of the part might be sufficiently benumbed by the hypodermic injection into the tissues of sterile water. S. Gant, of New York, has, during the last ten years, advocated this means of producing anesthesia and has employed it especially in surgery about the rectum. He maintains that the water should be injected into the lower layers of the skin, and that it is only when the skin becomes pale and apparently edematous that the most efficient anesthesia is secured.

Among the earliest substitutes proposed was beta-eucain. In 1905, novocain was discovered. It can be sterilized by boiling without undergoing change. Novocain does not injure the tissues, does not interfere with the healing of wounds after operation, and is estimated to be from one-sixth to one-seventh as toxic as cocain. It may be used in distilled water or in a physiologic salt solution and it may be combined with a small amount of epinephrin (adrenalin, suprarenalin, etc.) This combination with epinephrin intensifies the action of the drug so that less is required than when the epinephrin is not used with it. The drug may be used in strength of one-half of 1 per cent. solution. On mucous membranes its action is inferior to that of cocain.

In 1907, quinin and urea hydrochlorid began to be used as a local anesthetic. For the production of such anesthesia injections of a solution of from 1-4 to 1 per cent. strength are used. (See N. N. R., 1912, p. 195). This produces a more protracted anesthesia than the other drugs mentioned, often lasting for several days. The drug may be dissolved in water or in physiologic salt solution.

Anesthesia by means of quinin and urea hydrochlorid has been used in operations on the tonsils with considerable advantage because it not only abolishes the pain, but also by the exudate of fibrin diminishes the tendency to hemorrhage. Local anesthesia has been used especially in operations for hernia, on the genito-urinary organs, exploratory laparotomy, abscesses of the vermiform appendix and of the gall-bladder.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 554.)

The following prescriptions may be of interest:

Gastric Fermentation.

R	Gm.		
Sodii salicylatis	6		ziss
Bismuth subnitratiss.....	4	or	zi
Pulv. sacchari	2		gr.xxx
M. Fac pulveres exx.			
Sig.: One after each meal.			

Hyperacidity.

R	Gm.		
Prepared chalk	5		gr.lxxv
Magnesia	2	or	gr.xxx
Bismuth subnitrate.....	0.5		gr.viii
M. Fac pulv.			
To be taken at one time. (Bull. Gen. de therap.)			

Verrucae.

R	Gm. or c.c.		
Acidi salicylici	1		gr.xv
Etheris	1		mxv
Alcoholis	2.5	or	fl.zss
Collodii	5		fl.zi
M. Sig.: Apply one drop once daily.			

R	Gm. or c.c.		
Acidi salicylici	1		gr.xv
Acid lactici	1	or	mxv
Collodii	ad 10		ad fl.zi
M. Sig.: For external use.			

R	Gm. or c.c.		
Resoreinoliss	10-20		ziiss-zv
Glycerini		or	
Petrolati	aa .25		aa zi
M. Ft. pasta. (Merck's Archives.)			

Psoriasis and Chronic Eczema.

R	Gm.		
Salicylic acid	6		gr.x
Chrysarobin	1/3		gr.xx
Green soap	1/6	or	
Lanolin	1/6		gr.xxv
To be applied every morning. (Tribune Medica.)			

Chilblain.

R	Gm. or c.c.		
Ichthyolis	1		fl.zss
Resoreinoliss	1		gr.xxx
Acidi tannici	1	or	gr.xxx
Aquae dest.	.50		fl.iii.
M. Sig.: Apply at night.			

R	Gm. or c.c.		
Camphorae	0		gr.viii
Cerae albae	20		zv
Olei lini	40	or	fl.zi ziii
Balsami peruviani	0.75		fl.ziss
M. F. ung.			

R	Gm. or c.c.		
Iodi (vel ichthyolis) ...	0.2.		gr.v
Collodii	20	or	fl.zi.
M. Sig.: Apply once daily.			

—(Jour. A. M. A., Feb. 24, 1912, p. 555).

ORIGINAL ARTICLES

CEREBRO-SPINAL MENINGITIS.*

By W. L. Mosby, Bardwell.

The subject assigned me by our committee on program is so broad and so important that we feel justified in considering only a part of the general family "meningitis" in your presence this morning, so we take the liberty of discussing the possibly most important form to-wit: "Epidemic Cerebro-Spinal Meningitis."

This much dreaded disease occurs sporadically as an endemic or as an epidemic and prefers the environments of the rural districts, but does not (as has been shown by recent epidemics in Texas) discriminate against or exclude the city dweller from its recruits.

Winter and spring months seem to favor its development and spread and those more exposed to the hardships of life and live in unsanitary surroundings with improper food and clothing, crowded tenement houses with its accompanying evils, favor its development.

It has been given many names from time to time, by different authorities, such as "spotted fever," "malignant purpuric fever," all suggested by the petechia, ecchymosis, erythema or purpura that may accomplish it.

The anatomic lesion and pathologic condition is sufficiently indicated by the term "cerebro-spinal meningitis," and is an infectious inflammation of the pia mater and arachnoid of the brain and cord.

Weichselbaum believes the diplococcus intracellularis meningitis to be the microorganism present and responsible for the disease and claims it to be found in the polymuclear leucocytes.

The meningococcus is found in the nasopharynx of healthy people exposed during an epidemic in about 50 per cent.

Passed Assistant Surgeon, R. H. Von Ezdorf, found in the present epidemic in Texas that out of 410 healthy persons who had been exposed to the disease, that 59.6 per cent. showed themselves to be positive carriers of the meningococcus and from cultures it showed 53.75 positive carriers. First examination, nose and throat both positive, 152; nose or throat one positive, 99; nose and throat both, negative, 170.

In the 239 cases reported by him in the P. H. Bulletin, Vol. XXVII (No. 8, ages were given as follows: under one year, 12 cases; 1 to 4, 30; 5 to 9, 41 cases; 10 to 14, 14 cases; 15 to 19, 27 cases; 20 to 29, 40 cases; 30 to 39, 23 cases; 40 to 49, 26 cases; 50 years and over, 15 cases, and ages not given, 11 cases.

Up to January 27th, twelve reports of the

*Read before the Carlisle County Medical Society.

State Health Officer gave a total of 550 cases, and 210 deaths occurring in 49 counties of the state, principally Dallas, Ft. Worth, Waco, Houston and remarkable to say not a case had occurred in San Antonio up to January 25th, this being one of the largest cities in the state.

More males were affected than females, and the mortality was slightly less in females than males. Weather conditions had been very bad, cold and rainy for two months, following a three years' drouth during which time water had to be shipped to Dallas for drinking purposes. A significant fact worthy of consideration was the prevalence of an epizootic of so-called "blind staggers" among horses that had preceded the occurrence of cerebro-spinal fever in Texas this time and it might suggest the possibility of its occurrence in our locality soon as we have had a similar experience with stock this season. In Oklahoma state this epidemic reports from December 1st, 1911 to January 25th, 1912, 72 developed cases with 2 suspects and a total of 36 deaths in 14 counties. State and local authorities acting in concert in its control, by isolation, quarantine, disinfection, bulletins on sanitation, etc. The spinal fluid was examined by Dr. A. E. Thayer, Professor of Bacteriology in Baylor University of Medicine and Pharmacy; Dr. Abraham Sophian, of the Research Laboratory New York; and Dr. Nash, Health Officer of Dallas, carried out the treatment by use of Flexner's serum, giving a mortality of only 10 per cent. while the general mortality in the hospital was higher.

The meningococcus was found in the spinal fluid of all cases examined by Dr. Thayer.

Epidemics vary greatly as to severity and mortality varying from 20 to 75 per cent., being larger in children than adults.

SYMPTOMS.

In the fulminant form the onset is sudden and a chill will initiate the attack, its violence will suggest a grave condition, severe headache, stupor, disturbed by muscular spasm, great depression, and even collapse may early close the scene. In this form the temperature does not run high, usually, and the pulse may not exceed forty to sixty beats per minute, with feeble heart actions, labored breathing. Hemorrhagic extravasation frequently occurs in the form of purpuric rash before death ensues in less than twenty-four hours. I remember one case dying in six hours, and a young man in less than twenty-four hours.

In the ordinary form the disease develops quickly but with premonitory symptoms, such as headache, back-ache, and loss of appetite. A chill may usher in the real attack with vomiting and elevation of temperature (101 to 106.) Pulse is full and strong and later

becomes quicker and weaker. Vomiting is of the projectile or cerebral type. Pain is severe in back of head and neck, and there is a peculiar stiffness in muscles of this region, aggravation of pain on movement of head or body. There is intolerance of light and sound, with hyperaesthesia of skin to touch. Children become peculiar, irritable and restless, delirium may occur early, and be maniacal or active in form, and after a few days is succeeded by stupor deepening into coma and death. Cheyne-Stokes respiration is sometimes present. Pulse becomes disturbed and runs away with slightest disturbance or movement of patient. Constipation is the rule, with so-called scaphoid condition of abdomen. May be albuminuria with polyuria.

No disease is more variable in its course nor deceptive in its character. It may terminate in a few brief hours, or suffering may be prolonged for a number of months.

Among the special diagnostic signs we will mention Kernigs. This is obtained by placing the patient in a sitting position with the thighs flexed at the hips, and legs partially flexed at the knee, the patient can not extend leg at the knee on account of the irritability of the nerve roots of lumbar and sacral region, caused by meningeal inflammation. Babinsky's reflex, is done by tickling sole of foot, causing a turning up of great toe, which is not uniformly present.

Abortive forms occur, and may exhibit sudden and severe symptoms but quickly abating without explainable cause. Again we may see cases so mild that only the presents of an epidemic would enable us to positively make a diagnosis. Lumbar puncture has been used both for diagnosis and treatment.

TREATMENT.

We should have a large room of uniform temperature, quiet, well ventilated, and moderately dark, a good capable nurse is of special value. Conditions favorable for mental and bodily rest are essential. Food should be nutritious, easily digested and given at regular intervals. Pain may be relieved by hypodermic use of morphia 1-4 to 1-2 gr., with atropia 1-150, or t. opii deodorized gttts. 5 to 30, with one to four of tr. belladonna may be given by mouth if preferred. Rest has always seemed essential to a cure in these cases. Restlessness may be controlled if not too severe by potassium bromide or ammonia, but its disturbing effect on digestion should not be overlooked. J. M. DaCosta uses hyoscyne hydrobromate for muscular spasm, or it may be relieved in some instances by phenacetin or aspirin, but weakness of the heart is a contraindication to their use.

For insomnia sulphonal or trional may be given but may prove inadequate in the severer

cases, hot baths are highly praised by some practitioners. F. M. Jewnin reports five cases all recovering by use of baths 99 to 104, and Alfred Walish reports seven cases with five recoveries from baths beginning at a temperature of 90 1-2 to 92 3-4, and adding hot water to bring it to 104 degrees, during its administration the ice-bag or cold water coil is placed on patient's head.

Bichloride of mercury hypodermatically in 1-6 to 1-15 gr. was used by Dr. J. D. Smith, late of Paducah, who claimed brilliant result but others failed to get benefit of this author.

Lumbar puncture antiseptically and properly performed is safe and gives at least temporary relief if nothing more, removing five to ten drams of fluid with an aspirating needle, two to three drams of a one per cent. lysol solution may replace the aspirated fluid and is recommended by some authorities. Antidiphtheritic serum has been used in the treatment of cerebro-spinal fever but results do not justify its administration. Antimeningococcic serum discovered by Flexner, of New York, has done more for these sufferers than any other therapeutic measure yet introduced. A report of one hundred and twenty-one cases injected between the first and third days gave one hundred and three recoveries (88 1-10), and of one hundred of first treated between the fourth and seventh day seventy-eight recoveries (78 per cent), one hundred and seven cases first treated after the seventh day, sixty-eight recoveries (63.6), so we are led to believe the benefits of early injections is clearly shown. It has also been shown that by this treatment complications are lessened, convalescence hastened, and sequela prevented for it has been demonstrated that the meningococci rapidly disappear under its administration.

CLIMACTERIC NEUROSIS IN WOMEN.*

By J. O. JENKINS, Newport.

The establishment of menstruation and its cessation are both marked by systemic disturbances peculiarly their own. A class of disturbances which while not apt to produce physical alteration of the organism, very often shadow the functional activity of an organ and set in motion processes which ultimately derange the general health. But all the ills that women may be heir to must not be laid to the change of life. Certain pathological conditions are apt to take place in those years, but that acute diseases are specially influenced, or that chronic ailments are especially modified by the climacteric is doubtful.

If we stop to consider the amount of the

accustomed volume of blood lost at each menstruation for years and now turned back into the circulation, we can fairly judge the effect of the heightened pressure on the system. The retention of the normal waste in the body stimulates nutrition and the woman generally becomes more plethoric. Controlling all nutritive functions however, we have the great sympathetic nervous system with its numerous ganglions sometimes called because of its importance the "abdominal brain." The gastric, abdominal and pelvic ganglions are in intimate relation with the generative organs and the sensory fibres of the spinal and cerebro-spinal system of nerves. Through them or to them are transmitted to the sexual center of the brain all the irritations and fluctuations of genitive sensation to be translated into a multitude of symptoms elsewhere in the body. The disorder created is somewhat similar to that produced by disease of the thyroid and the parathyroid. A nerve hypertension is produced and the whole economy is in a commotion. The menopause or climacteric in women denotes the end of her active sexual life. The retrogressive alterations of structures and function instituted operate as a distinct shock to an otherwise well balanced psychic nature, and a varied train of illogical and erratic complexities are precipitated upon a hitherto stable and amiable nature. The high nerve tension and hypersensitiveness of the emotions are responsible for explosions which run the gamut of psychic and neurotic diseases. The cerebral unsteadiness is also heightened very often by the toxins present in the body as a result of depraved metabolism. The presence of ovarian secretion or ferment has also some influence on metabolism and nerve tranquility. Headache is common and neuralgia affecting almost any structure of the body, may inflict great suffering for days at a time or periodically for hours only. The organ affected is normal but the pain is often very severe and the attacks may recur for some years after the menopause has been completed. Disturbances of vision, dizziness, faintings, convulsions, and unaccountable weeping add their vagaries to the load the woman must carry, while storms of temper, hysteria and sexual delinquency make life miserable for her friends and relatives. Perversions of sensation may make life a round of misery, in fact very few women pass through the menopause without at some time, experiencing the troubles due to hyperaesthetic irritations of the nerves of the skin. General or localized pruritis robs her of comfort in the daytime and of sleep at night. When the pruritis is localized around the vulva or anus the victim becomes unwelcome to her friends and an executioner to herself.

Her whole thought is to relieve the itching.

*Read before the Campbell-Kenton County Medical Society

and the thousand and one remedies do no good, it is scratch, scratch until the surfaces are raw and bleeding with no relief.

The pudic nerve is at fault and other things failing, its section offers the woman the best chance of cure. Often associated with or dependent on the pruritis is eczema of the genitalia. This in itself is not so serious for it can usually be much benefited or cured by a proper line of treatment.

One of the most unhappy features of the period of sexual involution is the mental unsteadiness which is precipitated upon the individual and of which she is often vaguely conscious. The unsteadiness may be nothing more than a sense of unrest, a desire to change place or occupation or may show itself in vacillations of character and motive. A sense of fear and impending danger may keep her continually on the alert and rob her nights of sleep until insomnia becomes a fixed habit.

The alterations of sexual habit in the married woman is occasionally very marked. From being prudent and conservative in her passion she becomes the opposite. Fear of pregnancy and child bearing have kept her within bounds, but with the menopause well past, she feels she may safely throw caution to the winds and, as a consequence, staid matrons of society thus afflicted absorb all the reserve sexual favors of the legitimate donor and then add zest to the pursuit of pleasure by straying into fresher and more youthful fields.

With some women it becomes a mania to associate sexually with numerous men, or to exhibit their naked bodies wholly or in part, to the view of their erstwhile admirers.

A step further and true psychoses develop leading to pronounced insanity of minor or major degree or to paranoia. The history of neurotic disease among the ancestors may frequently be developed in the examination of the patient. Church, Nervous and Mental Diseases, says: "There is a physiological commotion in the nervous system at the time of the cessation of ovulation and menstruation, a disequilibrium associated, even in normal individuals, with numerous neurotic manifestations, and, in such as have unstable organizations, attended with peril to the mental integrity. Melancholia, simple and hallucinatory paranoia of chronic character, and circular insanity are the forms of psychosis incident to the menopause. About four per cent. of the cases of insanity in women are due to the climacteric."

The insanity which develops during the unsettled period is usually of sexual type and presents itself perhaps more often in those who have borne no children and in the "old maid."

This is possibly the despairing protest of nature against race extinction, that the individual unit should die without descendants. The sexual dreams of the woman have not been realized. The unsatisfied sexual hunger or force in such, becomes intense under the strain, escapes the vigilance of conventionalism and floods the personality of the woman with a torrent of erotic desire of all grades of moral filthiness and degradation. Nature has unfortunately overshot the mark and produced disaster instead of a harmonious symphony of life. Fortunately some victims partially or completely recover their mental stability when the physical equilibrium has been restored. Closely allied to the graver psychoses are the accentuation of the development of foibles and eccentricities such as walking the floor while eating the meals or performing ordinary duties by uncommon methods. Such patients often complain of the sensation of a moving body within the abdomen, stomach or chest. Illusions and hallucinations may add to the general disorder and the woman frequently become the victim of the religious faker, the neighborhood busy-body or schemer promoting his own interests. A woman presenting features of this kind is also liable to attach too great importance to her bodily ailments and become morbid. More often is it true if she be of phlegmatic temperament, stout build and a good feeder. It is chiefly from this class also that we hear complaint of a weight at the epigastrium; of gastric distention; cardiac palpitation, and alternating hot flashes and chills. Reflexions of visceral distress not unfrequently produce nerve depression, and we consequently find a few in whom numbness of a portion of the body produces the fear of paralysis on account of the anaesthesias and parasthesias sometimes present. Thus the hand, fingers, arm or leg may "go to sleep," or show lessened muscular strength and activity. We believe this to be due to one of two causes. First, depressive alterations from accumulated toxins in the body structures obnoxious to the vasomotor system. Second, the exhaustion of muscle fibres in previous years by hard work, severe illness or childbearing. It is difficult to convince the woman that her fears of paralysis are groundless provided always, there is no history of syphilis.

Permit us to consider a pathological condition largely dependent on the reflex results of ovarian involution, the effect being produced on metabolism and nutrition and which is sufficient to impair the bio-chemical processes necessary to bodily health and structural hygiene. The patient is between 40 and 45 years, has taken on flesh rapidly the past year or two, menstruation irregular as to time and quantity. She is a hearty eater of rich

foods, sweets and has no objection to a glass of wine, beer or other liquors. She sleeps well at night and takes a nap after dinner if opportunity offers. Her skin and sclerotics are darkened; the tongue is large, flabby, indented at its margin by the teeth and covered with a yellowish-brown fur; the breath has a mawkish odor and eructations of foul gas come from the stomach; the intestines are distended and the belly tympanitic, there is constipation, scanty urination, breathlessness and a flushed face on attempting moderate exercise or on ascending heights. There may be headache or only a sense of oppression in the brain and a sluggishness in intellectual activity. "Billiousness," we say, and proceed to give a cathartic. Very good, but the whole train of symptoms indicate a toxæmia which requires a most thorough and prolonged housecleaning. If you dismiss the patient with a handful of pills, a few doses of calomel or a bottle of salts, you have given her a brief, temporary respite from worse ills. The case is one of lithemia dependent on the menopause and will surely surround itself with more serious complications if not followed up and eradicated. Just such cases have developed a diabetes, a Bright's disease, gall bladder infection or structural disease of the stomach, pancreas or duodenum.

DIAGNOSIS.

In considering ailments at the climacteric a decision will have to be reached between the menopause and its complications; a sickness occurring during the menopause, neurasthenia and central nerve diseases. The treatment naturally divides itself into three parts to meet the requirements of the three forms of derangement though sharp boundaries cannot be drawn.

The chief divisions are:

1st. Those patients presenting symptoms of lithemia.

2nd. Those presenting types of nerve derangement.

3rd. Those presenting evidences of exhaustion and malnutrition.

For the first class elimination should be the watchword until the tissues of the body as determined by proper tests are free from the toxins of a faulty metabolism. A carefully arranged diet from which much flesh food has been excluded, a limitation of the total daily food quantity, the substitution of bulky food articles of low caloric value for those of higher proteid percentage, acid and subacid fruit juices, green vegetables are permissible but no water-cress, cabbage, turnips or radishes should be allowed on account of the high percent. of mineral salts contained in them. Alcoholics, sweets, sugars, spices, much tea, coffee, chocolate and fats must be forbidden replacing them by the injection of one or two

quarts of water daily. A daily hot bath followed by a cold shower and brisk rub is very beneficial. A Turkish bath once or twice a week is also very helpful provided there are no contra-indications.

A brisk walk of from one to four miles each day will add much to the effectiveness of the treatment. As to drugs the salines alone or in combination with salicylate of soda, phosphate of soda, soda citrate and carbonate, lithia given in effervescent form or with carbonated water are particularly valuable. An occasional dose of calomel, comp. ext. colocynth, aloes, podophyllin, scammony, jalap or gamboge will aid the saline treatment and serve to clear the urine of the debris contained in it, and reduce the danger of gall-bladder infection.

Flatulence will cease, the acetone, butyric, sulphuretted hydrogen and other odors will disappear from the breath and the sensation of gastric and abdominal distension will cease.

The second class is the one most likely to exhibit the greatest variety of nerve disorder. The woman is often of emotional extremes with strong sexual desire which has been fairly well repressed or controlled. A different therapeutics is therefore required. The physical type of this class is the morbidly nervous hysteric of florid complexion. Attention will be paid to elimination and an effort made to relieve the patient of physical, social and mental irritation, by a change of surroundings hydrotherapy and judicious massage.

Intervals of travel, sanatoria and country life with relaxation and suitable occupation promote good results in selected cases.

All exercise should stop short of actual fatigue, and regular hours and habits must be encouraged or enforced. The diet should be digestible and consist of the lighter forms of flesh food, green vegetables, fruits and carbohydrates unless obesity is present.

Alcoholic stimulants and stimulating food must be avoided if good results are to be obtained. A one minute cold shower every morning materially aids in regaining nerve tone. As to drugs, a varied assortment may be tried sometimes with good success and many times with failure.

The so-called nervines naturally suggest themselves and valerian and its combinations have a reputation for those excitable attacks of "the nerves" approaching hysteria. Other remedies found useful are hyoscyanus, monobromide of camphor, cannabis indica, canium, glycerol phosphates, phosphoric acid, the phosphates and bromides of soda, strontium and nickel, assafoetida is an excellent remedy when given in large doses. Some cases where either the arterial pressure is high or the nerve excitement very great will respond best

to tr. gelsemium, bryonia, veratrum viride or belladonna.

Other cases are best relieved by coal tar derivatives, chloral or opium. Venesection, blue mass, blisters and opium were much in evidence in this and the previous class particularly if plethora was notable, by the practitioners of former days.

The remaining class presents to us the results of the rough usage of life on woman, the wear and tear of hard labor, of frequent child bearing and insufficient food perhaps, and who has seen the bright aspirations of her youth vanish one by one in the matrimonial sea. She is anaemic, nervous, disheartened and physically bankrupt. The line of treatment is obvious. Ease up the strain, provide plenty of nutritious food of high proteid value, recall to her memory the forgotten precepts of personal and household hygiene.

Entice her from the steamy soapuds to the fresh air of the parks or a country home. Give her a large portion of sunshine and a vacation from family affairs. Medicine she probably must have, and you will be quick to think of iron in its many forms, first one and then another combination.

Bland's mass, Griffith's mixture, Basham's mixture because it is both pleasant to take and contains the reliable tr. ferri chloride, arsenic, arsenite of iron, tr. nuc vomica, strychnia, manganese and bark tonics for their stimulant effects. Each has an important place in restoring the blood, flesh and nerve integrity.

Strive in this class to promote an increase of flesh just as in the first class you would endeavor to reduce the weight. Reach an equilibrium proportionate to the woman's stature and you will have gained an important point. Where nerve tension has produced much emotional erythema the corpora lutea or lutein given in five grain doses two or three times daily will be of much benefit, but should be continued for a month or more in decreasing doses. The pruritis and eczema of the vulva are almost always curable by the X-ray. In conclusion he will succeed best, who is successful in impressing on the mind of the patient that she can be cured, in other words, her full confidence must be gained, bear in mind, however, that startling cures must not be expected too quickly. Proceed then with a judicious and masterly hand submerging your vexation at a temporary defeat, and view your task from some other hopeful point of attack. Success will follow in the large majority of cases, and you will have the satisfaction and peace of mind of the one who conquers.

ACUTE OTITIS MEDIA; CAUSE, COMPLICATION AND TREATMENT.*

By W. J. THOMASSEN, Newport.

Earache, from time immemorial, has been considered by the laity and by many of the profession as a simple childhood complaint and all that was indicated in the way of treatment was an abundance of endurance on the part of the individual, plenty of hot rancid rabbit oil to instill in the external ear or perhaps hot tobacco smoke blown into the ear, providing a smoker was handy.

When nature came to the rescue and the drum membrane ruptured, the child experienced relief, and grandmother and her rabbit oil received the credit and the child went on to recovery or, more often, the individual was left with defective hearing, or spent the rest of his days with a discharging ear.

Pain located in the middle ear is nature's cry for help, and if recognized at the proper time and treatment instituted, the individual is not only saved much suffering, but the ear structure itself is prevented from undergoing changes that may render the individual hard of hearing, as well as causing him to have a chronic discharging ear that may shorten his days or at least, compel him to be an outcast from society.

In this day of preventive medicine, a large per cent of all middle ear complications should be prevented. The time to treat these condition is before the Eustachian tube is involved. In other words, treatment should be given to the child just as soon as any abnormality is discovered in the throat or upper air passages.

We now know that the majority of all ear conditions is secondary to some pathological condition in the throat and the lymphoid tissue in the vault of the pharynx is more often the cause of middle ear infection than all of the other structures of the upper air passages. The child with the snuffles has one of two conditions—either syphilis or adenoids, and I believe I am safe in saying, in private practice you will see ten children with adenoids interfering with respiration and nutrition to one with congenital syphilis. It is impossible for a child, with an obstruction due to adenoids, to properly take the breath, consequently nutrition is interfered with.

The hypertrophied or diseased adenoid tissue in the infant, is a frequent cause of tubal catarrh, and any interference with the ventilation or drainage through the Eustachian tube, exposes the middle ear to infection. The child is never too young for the removal of the obstruction from the post nasal space.

It is not proper to remove the adenoids

*Read before the Campbell-Kenton County Medical Society

from all children, but it is proper to remove the obstruction from all cases irrespective of age, if respiration or nursing is being interfered with.

The hypertrophied tonsil may in some instances be the cause of middle ear infection, either by acting as a culture media for bacteria or by the secretion of an abundance ofropy mucus that may cover the mouth of the Eustachian tube. It is the submerged or buried tonsil that is more frequently the cause of middle ear infection. It is this type of tonsil that causes pain along the Eustachian tube and referred to the ear during an acute inflammatory condition of the tonsil. The submerged tonsil is practically covered in its entirety by the pillars and by the plica tonsillaris, the crypts are unable to empty themselves and as they are filled with debris of epithelium and food they become the incubators for bacteria. This type of tonsil is bound down by the pillars and in the act of swallowing, the tonsil presses on the Eustachian tube, narrowing the lumen of the tube by direct pressure preventing free drainage and ventilation of the middle ear. Any inflammatory condition of the nasal chambers may cause middle ear infection, especially is this true if the posterior ethmoids or the sphenoids are involved. This is especially true should the infection of these cavities follow la grippe. The discharge from these cavities drop into the post nasal space, and the mouth of the Eustachian tube is constantly bathed in these secretions. One important point to remember is to warn the individual, with an acute head cold or one with a sinus involvement (and a large number of your la grippe cases will come under this head) to not forcibly blow the nose, for by so doing they are likely to force bacteria through the Eustachian tube into the middle ear, and by so doing set up either a catarrhal or a purulent otitis media.

We, as physicians, should convince our patients that it is not necessary to make a noise when the nose is cleaned, nor is it necessary to use any force, for every time force is used, the individual exposes himself to middle ear infection. If we, as physicians, could eliminate the forceful blowing of the nose, we will have prevented a large percent of all tubal and middle ear complications.

It is well to consider the anatomy of the Eustachian tube, that we may understand why this tube is involved in all middle ear infections following some pathological condition in the throat or nose. This tube is the wind pipe of the middle ear. It is about one and one-half inches long, the bony portion being one-half inch and the membranous being one-inch in length. The tube is of a double trumpet shape, the narrowest part being at the junction of the membranous with the

bony portion, this narrow portion is known as the isthmus, and all of the tube below the isthmus is made up of the same kind of tissue as that of the throat, and is covered with the same kind of epithelium, in fact the tube to its isthmus is really a part of the throat and all diseases of the throat may extend to the tube by continuity of tissue.

That portion of the tube above the isthmus is a part of the middle ear, the tube being of the same structure as the tympanum. Under ordinary conditions the membranous portion of the tube is in a state of collapse; during the act of swallowing or yawning the tube is opened, and air is admitted into the middle ear cavity. When, for any reason, the tube is not opened during the act of swallowing the air is not admitted, and the oxygen within the tympanic cavity is absorbed, and a vacuum or negative pressure exists, there is an increased blood supply to the parts; the secretions are retained and undergo changes; the tissue becomes thickened and you have your tubal or tympanic catarrh. The mucous membrane of the tube undergoes a thickening; drainage and ventilation are interfered with and any bacteria that may have found their way into the middle ear are retained. The increased blood supply, heat and moisture is favorable to the growth of the bacteria, and a catarrhal or a suppurative process is established.

The accumulation of even a small amount of serum within the middle ear if retained is likely to bind down the ossicles interfering with their free movement and possibly causing an ankylosis of the foot plate of the stapes in the oval window interfering materially with the individual's hearing. Should the patient escape ankylosis of the ossicles, the drum membrane may be retracted or thickened interfering with hearing and in many of these cases the tinnitus or ringing in the ear is very annoying to the patient.

Another symptom of tubal involvement is the sound of the individual's voice. He will tell you that he dislikes to hear his own voice for it sounds to him as if he was talking in a barrel. This is due to the unequalized air within the middle ear and as soon as this air pressure is equalized, or in other words, as soon as the Eustachian tube again performs its normal function, the trouble with the patient's voice will disappear.

The acute infections diseases are a frequent cause of middle ear complications. Measles, no doubt, is the cause of more tubal and middle ear complications than any one of the acute infections. The angina of measles spreads to the Eustachian tube by continuity of tissue. Measles is considered of so little importance by the laity, and in many instances a purulent otitis is established before

a physician is called to see the patient.

Scarlet fever is another frequent cause of tubal and middle ear infection, and in this disease the infection is caused by a very virulent organism, and in a large number of cases the antrum and mastoid are involved. The writer recalls a case that was referred to him one year ago, with a double purulent otitis. This child did not only have scarlet fever, but smallpox as well, the smallpox coming on before the child had fully recovered from scarlet fever. In this child, the double otitis undoubtedly was secondary to the scarlet fever. Nevertheless there was an involvement of the mastoid on one side, which was operated on with a complete recovery, and under the prolonged treatment, the other ear ceased discharging and practically normal hearing was restored.

Diphtheria may cause middle ear infection by the diphtheria membrane invading the middle ear by the way of the Eustachian tube, the Klebs-Loeffler bacillus being found in the middle ear after rupture of the drum membrane. Lagrippe also invades the middle ear, and as this is usually a mixed infection, much harm may be done to the middle ear structure in a very short time, many of the cases having mastoid involvement, and it is in these cases that bone necrosis is very rapid and frequently the lateral sinus is denuded of all of its bony covering. These are the cases that may have a sinus thrombosis or go on to abscess formation in the cranial cavity.

In treating the acute infectious diseases the ear should be examined and at the first indication of any change in the drum membrane, or if the land marks are clouded, prompt treatment should be instituted. Care should be exercised in the use of all cleansing solutions in the nose and throat. It is an easy matter to force the cleansing solution through the Eustachian tube into the middle ear, and by so doing some bacteria may be carried into the middle ear cavity with the fluid. This is especially true in young children, owing to the Eustachian tube being shorter and broader as well as more patent, in young childhood than in adult life. It is far better not to spray the nose or throat or use swabs or gargles in a child that strongly resists, for in forcing him to take the treatment much harm may be done to the Eustachian tube and middle ear by forcing a part of the solution used in the treatment, or carrying bacteria into the middle ear cavity with the solution.

SYMPTOMS.

Pain is one of the first symptoms that the patient complains of. This pain is deep seated, boring in character and worse at night. This is especially true on retiring. Resuming the recumbent posture seems to increase the

intensity of the pain. The throbbing is in unison with the radial pulse, and the suffering is increased with every act of swallowing, coughing, blowing the nose, sneezing or jarring of the body. Usually the pain is preceded with a chill and there may be a slight rise of temperature and headache, but these symptoms may be overlooked in those cases of otitis secondary to the acute infectious diseases, as they are symptoms similar to those found during the acute infectious diseases.

The first symptom that may point to the middle ear infection may be the severe earache, or in those cases with a virulent infection, the drum membrane may rupture in a few hours and the discharge associated with pain, will call the attention to the seat of the trouble. In these cases, with an early perforation of the drum membrane, should the pain return in a few hours or in the course of a day or two, this return of pain is a sure indication that the opening in the drum membrane is too small and not affording free drainage. Should the acute otitis be of a catarrhal type, the exudate may find its way out through the Eustachian tube. More often however, the pain is so annoying and the prostration so great, that relief is sought and the patient may be relieved at once by a free incision through the drum membrane. This incision not only relieves the suffering of the individual, but prevents the binding down of the ossicles by a free drainage of the middle ear cavity.

All individuals suffering with any of the acute infectious diseases are likely to have an involvement of the middle ear and the drum membrane should be examined daily by the aid of the head mirror and reflected light, and any abnormality in the drum should arouse the suspicion of the attending physician. The first symptom seen on inspection of the drum membrane, is a reddening of the drum head at its junction with the external canal, a little later the short process and the handle of the malleus becomes red, the light reflex disappears and the greater part of the membrane tympanic is red, thickened and all of the land marks disappear. The inflammatory condition may stop at this stage, but more often the process goes on to a serous, suppurative state, then fluid is seen behind the drum membrane, or if there is much secretion within the middle ear cavity a marked bulging may be found in any quadrant of the drum membrane. Usually it is the superior quadrant that bulge, but the location of the bulging depends on a number of conditions of the middle ear. For instance, if there has been adhesions within the middle ear involving the ossicles, the small amount of pus may be walled off, as it were, causing a bulging in any of the quadrants. Again, this condi-

tion may exist with fluid in the middle ear cavity and the pocket not noticed until a free incision had been made and all of the cavity drained, excepting the portion walled off by former adhesions.

The posture of the patient also influences the position of the fluid, and it is well to have the patient in an upright position in examining the ear, for many times the fluid will be seen with the patient in this position, whereas if the examination is made in the recumbent posture the bulging may be seen in a different quadrant or overlooked entirely.

The drum membrane should not be permitted to rupture, and in fact, if a close watch is kept on the ear during the treatment of those conditions known to be followed with middle ear complications, a clean incision will be made, the drum head will be preserved and there will be far less cases of the chronic type of otitis to treat. A free incision heals readily, in fact, incision through the drum membrane in many instances repairs itself many times before the middle ear cavity has been emptied of all the secretion that forms within the cavity.

SEQUELA.

Impairment of hearing to a certain extent, always follows an involvement of the middle ear, even in those conditions classed as a simple catarrhal otitis due to the adhesions following the partial absorption of the exudate and the binding of the ossicles to each other or to the walls of the tympanic cavity. The drum head may also be involved by being drawn in and adhering to the tympanic walls, causing a progressive deafness with a severe tinnitus which becomes very distressing to the individual. Permanent deafness is a frequent complication following measles, scarlet fever and diphtheria. In fifty per cent. of all cases of measles in young childhood, there is some involvement of the middle ear and as this disease is considered of no importance from the standpoint of the laity, it behooves us as physicians, not only to educate the parents to consider measles as one of the most treacherous diseases of young childhood, but we, as medical men, should be prepared to examine the middle ear of all children afflicted with this disease and be able to give the throat and ear the prompt and early treatment required in this condition. Many cases of middle ear involvement following the acute infectious diseases not only leave a complete destruction of the drum head but a destruction of the ossicles as well. Some of these cases may have partial hearing, whereas others are doomed to go through life unable to hear a general conversation, with a discharging ear on one or both sides. The individual with a chronic otitis is an impaired risk so considered by all life insurance companies.

In fact, he is in constant danger of the necrosis extending to some vital point, causing either a brain abscess or a meningitis that may be the cause of his demise at any time. Should he be fortunate enough to not have a cranial complication, he will go through life unable to hear, his earning capacity will be lowered and in the course of time his voice becomes impaired and the individual practically becomes a mute.

In practically all cases of acute suppurative otitis media, there is an involvement of the mastoid antrum with an early diagnosis and a free incision and good drainage established, the mastoid cells may escape involvement. In those cases, with a streptococcus infection, usually the mastoid antrum and cells as well, are involved and it is these cases in which the destruction of bone is very rapid; the lateral sinus or middle fossa may be denuded in a short time complicating the mastoid involvement and endangering the life of the patient. In all infections of the middle ear following the lagrippe, mastoid involvement is frequent and as the infection is virulent, the drum membrane should be incised early, and if the mastoid becomes involved, the earlier the cells are obliterated, the better is the chance of the patient to survive the operation. Death may result early in the disease due to meningitis, sinus thrombosis, septicaemia or a brain abscess. The meninges may be involved by the infection through the labyrinth, the tegmen, nutri or tympanum or through one of the open sutures of the temporal bone in infants and young children.

PROGNOSIS.

The prognosis in the acute suppurative type of otitis media is good, if the proper treatment is commenced early; delay may be followed with changes in the structures of the middle ear that will interfere materially with the patient's hearing. Individuals with syphilis or tuberculosis do not respond to treatment, and the prognosis as to a complete recovery should be guarded. Those individuals with obstructions of the upper air tract may respond promptly to treatment, and have a relapse due to the condition of the epipharynx and fauces.

The duration of the catarrhal type of middle ear trouble is usually from one to six weeks, but in some cases, where treatment is commenced early, it may be aborted in one or two days. The pain will be the first symptom to disappear. The drum head will return to its normal color and in a few days the tinnitus may subside, but in many cases this condition continues for several weeks, or it may remain indefinitely, becoming a chronic condition.

The prognosis in the acute suppurative type depends upon the early recognition of the trouble and the treatment instituted. Should

the drum membrane be allowed to rupture, and the condition go on without treatment for a few days, irreparable damage may have been done. In some of these cases, practically all of the drum head is destroyed and on looking into the external ear, the middle ear is seen through the speculum. Fortunately, some of these cases have a fair amount of hearing, but this is the exception, and not the rule.

The necrosis of the ossicles and the adhesive processes following the acute suppurative type, always makes the prognosis doubtful, and in all of these cases that have been discharging six weeks or longer, should be considered as chronic and treated as such. These are the cases that usually have a necrosis of the ossicles and the discharge continues until all dead bone is removed, whether it be the bones in the middle ear or the mastoid cells.

TREATMENT.

It is the pain in middle ear conditions, that prompts the patient to seek relief from the physician, and in many of these cases the advice of the medical man is not asked for nor followed if given in reference to the treating of the cause of the middle ear trouble. Frequently, as soon as the pain disappears, the patient remains away from the doctor, and either has a return of the trouble or the acute tubal catarrh becomes the chronic form with a progressive deafness that in a few years renders the individual unable to hear a general conversation.

Pain being the most prominent symptom in middle ear involvement, it is this symptom that the physician is asked to relieve, and there is nothing that can take the place of opium, or some of its derivatives, and any solution that may be used in the external meatus, will practically be useless as far as the relief of pain is concerned without a narcotic being used in conjunction with the external treatment. The drum head will not be penetrated by any solution used in the external ear, nor will any solution so used be absorbed by the drum membrane, and all solutions used externally exert their influence either by the heat, as most solutions are used as hot as they can be borne, or by their hygroscopic properties on the surrounding tissue. Dry heat applied to the face and external ear, has a tendency to relieve the pain; a solution of glycerine and carbolic acid 12 per cent. dropped in the ear as warm as can be borne, affords some relief. Another favorite preparation is equal parts of crystals, carbolic acid, cocain and menthol, allowing the crystals to liquify and then instill a few drops into the meatus. Glycerine may be used instead of the menthol. The fumes of chloroform may be used—a small piece of cotton is put in the

bowl of a pipe and the stem inserted into the external meatus, and the physician blowing the fumes through the stem of the pipe by covering the bowl with his lips. Leaches may be used over the tragus, or over the mastoid process, and there is nothing that gives quicker or better results in the treatment of these cases, than the use of the leach. A blister should never be used, for by so doing the injured integument over the mastoid process may interfere with the diagnosis of an involvement of the mastoid cells.

Inflation in the early stage of an acute otitis is harmful and if used in the second stage, should be done by the physician and all antiseptic precautions taken. The catheter should be used if possible, and only under the most favorable circumstances should the Politzer method be used, and never should the bag be given into the hands of the patient for his own treatment. Valsalva method of inflation is mentioned only to be condemned, and is a dangerous remedy to put in the hands of a patient. Internal treatment in these cases cannot be dispensed with. The coal tar preparations have their uses. Calomel in large doses followed with a saline, help to deplete the fluid in the middle ear cavity. Local treatment to the nose and throat should not be neglected. Gargles given flat on the back or with the head thrown back and the tongue out, are useful in the treatment. The solution used as a gargle should be as hot as the patient can stand it, cocain applied to the mucous membrane of the Eustachian tube promotes drainage and relieves the tension within the middle ear cavity. The drum head should be examined frequently and as soon as fluid is found within the middle ear cavity, a free incision should be made. Before any incision is made, the external canal must be rendered aseptic by the use of bichloride solution, alcohol or by the use of iodine well rubbed into the skin and hair follicles. The incision should be made over the point where the greatest amount of bulging exists and should be free enough to promote drainage. As no remedy is known that will so deaden the drum membrane that an incision can be made through the drum head without pain, it is well to always consider the use of a general anesthetic in these cases. Especially should this be done if the patient is nervous or hard to control.

After the drum head is incised, nothing should be inserted in the external canal in the way of drainage. A small piece of cotton may be placed lightly in the canal to catch the discharge and replace with a clean piece as soon as soiled.

In the acute catarrhal cases, douches in the ear will do no harm and may convert an acute catarrhal otitis into one of the purulent type.

It is far better to wipe out the middle ear cavity with a piece of sterile cotton on a probe, and by being careful of your asepsis, the discharge soon ceases and the drum membrane is rapidly repaired.

In the purulent type, free drainage must be secured and the ear cavity kept perfectly clean, either by use of a cotton wound probe or by the use of warm alkaline solution and then the ear mopped out until the cavity is dry. Care must be used in the washing of the ear, for any force may carry the infection to the inner ear, or to the mastoid cells. Peroxide of hydrogen must not be used in the ear, if the drum membrane is not intact, for if this drug is used, and there is a perforation, the infection is likely to be carried to the antrum and mastoid cells or be forced through the oval or round window into the inner ear.

Powder in some cases is of use, but should the perforation be small, the powder will block the opening through the drum membrane and prevent free drainage.

Alcohol, boracic acid and distilled water, is one of the best remedies to use in the acute cases. The mixture is instilled into the ear luke warm and the patient is kept in the recumbent posture with the ear uppermost until the alcohol evaporates and leaves the boracic acid distributed over the diseased ear.

In those cases, with any obstruction in the throat or naso pharynx, the ear seldom ceases discharging and remains well until the obstruction has been removed, and it is well to remember in these cases, not to make a favorable prognosis until all likelihood of a recurrence from diseased lymphoid tissue has been removed. Frequently these ears may stop discharging for a short time but as soon as a fresh cold is contracted the discharge again appears.

A GENERAL PRACTITIONER'S LABORATORY.*

By L. A. TATE, Louisville.

Good routine clinical analysis of the practical sort has become as essential to the successful practice of medicine as physical diagnosis and in many instances is of vastly more service. The use of instruments of precision has taken the place of cruder methods in every branch of science and in medicine the day of snap-shot diagnosis has past and gone.

I shall deal in this paper with the workings of practical laboratory such as any busy practitioner could operate with very little expenditure of time and very little thought after he has established a routine.

First and last I wish to dispel the idea,

which I have heard expressed, that it requires a skilled and thoroughly trained chemist and microscopist to do this work successfully. It is a mistake; any doctor who is so disposed can take a good microscope, centrifuge, slides and cover glasses, an alcohol lamp, test tubes, glass tubing, red and blue litmus paper, urinometer, filter paper and stand, burette, 2 porcelain dishes, 2 graduated beakers, and with the aid of a short list of stains and reagents purchased ready prepared through the druggist, can make all of the most practical examinations of the blood, stomach contents, feces, sputum, milk, urethral and other discharges and urine.

In regard to blood examination it is my opinion that the microscopic diagnosis of malaria and the estimation of hemoglobin by the Talquist method are the only procedures available for the general practitioner. The differential blood count is easy but it requires a mechanical stage and a rather exact knowledge of the morphology and staining peculiarities of the various cells. I would not advise the red and white cell counts for the practitioner because of the time it takes and the rather expensive apparatus necessary. But the estimation of hemoglobin by comparing a drop of the patient's blood collected on a slip of bilulous paper (with a graduated color scale) is a simple and often useful procedure. And the diagnosis of malaria microscopically is easy, practically and almost absolutely without fallacy. It can be done two ways, namely the fresh drop method and the stained smear of which the last method is the more generally satisfactory. The drop is taken from the finger or ear lobe and a thin film obtained by placing a second cover glass over the one on which the drop was collected and then the two slid apart; this is then stained with Wright's stain and examined under the oil immersion lens. The parasites is easily seen even by the most inexperienced. Under the heading of blood examinations the Widal test might be mentioned. Park Davis & Co., sell an outfit known as an agglutometer with which a practical Widal test can be made without the aid of a microscope. The result with this instrument is very satisfactory and is worthy of commendation.

A comprehensive study of the stomach contents will not be attempted here. There are several valuable tests, none of which require any especial skill or knowledge of chemistry, among which might be mentioned the test for lactic acid, the presence of which in the stomach washings is fairly diagnostic of cancer; the determination of the total acidity, free hydrochloric acid and of the peptic digestion, all of the service differentiating the various dyspepsias. The motor power of the stomach

*Read before the Christian County Medical Society.

is an important factor in digestion and the estimation of this function is one of the most valuable of the stomach examinations; the usual method is to wash out the stomach six hours after an ordinary meal and examine the food in the washings the presence of which would mean a deficiency of motor power and the length of time after a meal that food is still present in the stomach indicates the degree of this deficiency. Another method is to administer salol by the mouth and examine the urine every one-half to one hour for salicylic acid, which should normally appear in from 60 to 75 minutes. It is detected by adding a few drops of ferric chloride solution to the urine which gives a brownish or violet color in the presence of salicylic acid.

The estimation of the absorptive power and of the capacity of the stomach are easy to make and are helpful in diagnosis.

The examination of the feces under the microscope will sometimes make clear the diagnosis in an otherwise obscure condition, by the finding and recognition of vegetable or animal parasites.

The importance of breast milk examinations appeals to every doctor because of the problems of infant feeding involved. A good practical examination can be made with no other instruments than a cream gauge and a lactometer, or even an ordinary urinometer may be used instead of the lactometer if the quantity of the milk collected is sufficient. By the cream gauge we estimate the amount of fat and by the ratio between amount of fat and specific gravity of the specimen we are able to compute approximately the proteid content. The other constituents, sugar and salt, are nearly constant and are of minor importance.

Sputum examination, especially as an aid in the diagnosis of phthisis should be a routine practice with every doctor. A cheesy mass from the sputum cup should be teased out on a slide and stained with carbol-fuchsin. The rod-like bacteria of Koch takes the bright red acid stain and are plainly visible under the oil immersion. Positive findings are, of course, diagnostic but negative results are of no value. Hence the necessity of repeated examinations. The examinations of urethral discharge for the gonococcus is valuable from the prognostic standpoint as well as the diagnostic. The Gram's method of staining should be employed, by which method gonococci are decolorized and take the Bismark brown-counter stain while the other bacteria retain the violet color.

Much could be said on the subject of urinalysis but I shall content myself here with a very brief outline of the routine methods which have given satisfaction. When convenient a portion of the 24-hour specimen

passed into a clean vessel, should be used for examination, but when this method for any reason is not available, collected specimen from one micturition, preferably passed in the P. M., about three or four o'clock. The specific gravity of the specimen should first be taken and while doing this the color and odor may be noted; determine the reaction with red or blue litmus paper; then test for albumin by heat and nitric acid controlled by Heller's nitric acid ring or contact test. Use Hanes' method for testing for sugar. The test for urea, bile or indican may then be made if the symptoms indicate the advisability. Also, if you haven't the microscope, the presence of pus may be determined by adding a few drops of potassium hydrate to the specimen, which will throw down a rosy precipitate when test is positive.

Blood will give a robin's egg blue juncture line when the suspected urine (or other fluids) is made to underlie the mixture of 4 or 5 c.c. tr. guaiacum and one-half as much hydrogen peroxide. There are other chemical tests of urine but these outlined are the most important.

The microscopic examination of urinary sediment is exceedingly useful. A good handpower centrifugal machine is a necessity here. The presence of many things may be demonstrated by this means, among the most important of which may be mentioned blood, pus, casts, epithelial cells, bacteria, and various crystals.

Urinalysis is especially valuable in the differentiation of the various forms of nephritis; so it might be well to insert here a brief summary of the typical urinary findings of the most common forms, namely, acute parenchymatous, chronic parenchymatous and chronic interstitial nephritis. In acute parenchymatous nephritis the urine is dark in color, and smoky, (due to be) usually acid in reaction, light in specific gravity, 1025 to 1030, and highly albuminous. There is a large amount of red-brown sediment which, when subjected to microscopical examination, is found to be made up of large epithelial casts, blood casts, few granular casts and some hyaline and half and half casts; clumps and layers of round kidney cells with their distinct nuclei are seen. The number of casts effect the prognosis, the more numerous they are the worse the prognosis.

In chronic parenchymatous there are two stages, that of the large white kidney and that of the small white or secondarily contracted kidney. In the first mentioned stage the urine is pale and low in specific gravity, except very early, when the specific gravity may be higher, but it is soon lowered, coincident with an increase in quantity. Albumin is considerable but not as much as in acute

parenchymatous. There is a white deposit which is made up of large hyaline, granular, and sometimes, epithelial casts, which last are of grave prognostic significance. Urea is always diminished, usually running around 1 per cent.; when it falls to five per cent. or lower, there is imminent danger from uremia.

As the kidney becomes secondarily contracted, (if the case progresses this far), and the second stage sets in, there is an increase in quantity of urine indicated by more frequent micturition, specific gravity goes still lower, albumin is diminished and the sediment becomes much less in amount. The majority of the casts are small but there will still be some large ones in the specimen. The casts are mostly finely or coarsely granular, and sometimes late in the disease fatty and waxy, which means that the end is not far off.

Chronic interstitial nephritis is slow in its course and is associated with high arterial tension and diseased blood vessels. Urine increased in amount and night micturition is an early sign. Albumin is trifling and transient; specific gravity 1015 to 1018; urea slightly diminished; casts are small, sometimes very small, are hyaline and granular and few in number. Oil droplets are frequently seen scattered through the urine of this condition and are usually associated with grave pathology.

I have endeavored to eliminate tedious detail with a view of bringing out the actual, everyday value of a small laboratory for the practical work of the general practitioner. The apparatus is not expensive and with the aid of epitomized books on the subject, for ready reference, satisfactory chemical and microscopical examinations can be made even by the most inexperienced. It is not necessary to carry the technique of all the tests in mind, but keep the little book at hand and know it well enough to be able to turn to any test and perform it by the rules there set forth.

Epilepsy and Pregnancy.—In women with epilepsy in whom pregnancy apparently causes the convulsions to become more frequent or more severe, Miller says one should always consider the necessity of terminating the pregnancy. In cases of pregnancy in epileptic women, one should watch with extreme care for indications of toxemia or the premonitory signs of eclampsia and should put an end to pregnancy at the appearance of symptoms of much less gravity than would indicate this procedure in women who are not the subjects of disease. He cites one case.

CAESAREAN SECTION.*

By A. H. BARKLEY, Lexington.

There is perhaps no operation which has behind it the history that Caesarean section has. Many erroneous ideas and misstatements have been handed down and accepted as true without question. The statement that many persons of prominence both in ancient and recent times have been born in this manner, is frequently met with; the fact, however, remains that while a few historical personages were so born, many were not. The very early writers on medicine are silent on this subject; thus no mention of it occurs in the works either genuine or false, of Hippocrates, Celsus, or Paulus Aegineus. Pliny tells us that Scipio Africanus, the vanquisher of Hannibal, was brought into the world by this operation.

It is generally believed that Julius Caesar was born in this manner, and that the operation thus took its name. If this is a fact, which I doubt, his mother survived the operation, as she died while he was prosecuting the war with France. Indeed, there is nothing in history to warrant the belief that he was born in this unusual manner. It perhaps was due to the fact that the ancients thought it necessary to invest the birth of so great a man as Julius Caesar with extraordinary circumstances.

Shakespeare has not overlooked the advantage he might derive from the incident with which tradition had invested the birth of Macduff. The last hope and frantic desperation of Macbeth built upon the apparition's prophecy,

"I bear a charmed life which must not yield
To one of woman's kind"
suddenly forsakes him, when Macduff declares to him the manner in which he was introduced into the world.

"Despair thy charm
And let the angel whom thou still hast served
Tell thee Macduff was from his mother's womb
Untimely ripped."

There is no question but that the Jews were acquainted with this operation and practiced it with an occasional success. It is said that Numa, the second King of Rome, caused to be enacted such a law as would forbid the burning or burial of any woman dying in childbirth until the child had been removed from the womb by incision.

The earliest account in medical works of this operation will be found in the writings of Guy de Cauliac in 1363. He speaks of it only as an operation to be performed after

*Delivered before the Second and Third Class at American Medical College, St. Louis, Mo., March, 1912.

death. Pare speaks of it as an operation only for the dead mother, and frowns upon the idea of its ever becoming an ante-mortem operation. The first case that was ever intelligently described was that of a sow-gelder's wife in 1500. This heroic gentleman operated on his own wife, saving both mother and child. There had been no attempt up to this time by any one to put the operation upon a scientific basis, and it remained for Roussel in 1582 to collect what cases he could and draw such conclusions as to finally put the operation on a sound footing. Various operators lay claim to priority in the performance of Caesarean section, as Dixon (*Am. Jour. Med. Science*, Vol. 124, 1902) states the first case was done in Switzerland in 1498, while the first physician to operate was Trautman of Wittenberg in 1610. Both of these operations were done for deformed pelvis.

In all the ancient works that treat on this subject, they universally condemn its performance until after the death of the mother. It is indeed surprising that the operation was performed on the dead body at all, knowing as we do what profound respect the ancients held for their dead, as in those days operations were not performed with the same free hand as they are to-day. However, be it as it may, they were performed upon the dead mother, and done successfully so far as the child was concerned. There are many cases on record which are short of miraculous. Cesseur in 1901 (*Munich Med. Woch.* No. 11) reports a case in which he operated ten minutes after death from eclampsia, saving the child. Plinger reports a case in the Dresden clinics in which a mother was operated upon nineteen minutes after death, saving the child. He also cites a case in his own practice wherein he succeeded in saving the child twenty-five minutes after the mother's death. I mention these cases partly because of their rarity, and also on account of the possibilities the operation offers to the child.

I presume at the present day it is needless to admonish the profession as to the propriety of operating when possible before death as the foetal mortality runs something like 95 per cent. Sir Ould in 1742 was the first man of any prominence to advise operating at the beginning of labor in those cases when delivery of a living child was impossible due to any mechanical obstruction along the parturient canal. It is needless to say that the opposition at so early a date was very great; but being a man who had the courage of his convictions, he thoroughly demonstrated to the satisfaction of all that it was a logical procedure in well selected cases, and it was not long before he had many converts among whom were such men as Burton, Smellie and others equally prominent. They readily foresaw

what might be gained by performing the operation before the patient was moribund, and gave an impetus to the operation which it has since sustained. Perhaps no operation has been so much improved by asepsis and perfect technic as the one under discussion. The profession has grasped the situation and has readily taken advantage of the fact that early operation is the only one to be considered in obstetric surgery. As has been said, it was formerly performed on dead or moribund patients, and the mortality following the operation was as large, if not more so than the condition which it was undertaken to relieve. This caused many excellent surgeons in the pre-antiseptic era to hesitate to perform it.

Fritsch of Bon in speaking of the antiseptics in Caesarean section says, "The benefits of antiseptics in Caesarean section have been remarkable. Before the most favorable statistics showed the mortality of 50 per cent. compared with 5 per cent now due to the operation in the hands of Leopold and others, and indications are so enfranchised that the perforation of a living child is almost considered a crime.

INDICATIONS.

This operation is demanded in any case where there is such disproportion between the parturient canal and the child or vice versa, or where there exists an obstruction due to a growth either malignant or benign, either of the mother or child, that delivery *per vias naturales* is impossible.

There are other conditions arising on the part of the mother that may demand operative interference, and since Caesarean section has within the past few years gained such favor, it now infrequently happens that such contingencies are successfully met by the judicious employment of the operation in question. I refer to placenta previa and eclampsia.

Although the conditions have been broadly stated above, it is well to mention a few of the most frequent conditions that demand its performance:

- 1st. Contracted and deformed pelvis.
- 2nd. Tumors either of the child or the mother.
- 3rd. Eclampsia.
- 4th. Placenta previa.
- 5th. Vaginal deformities.

In *contracted pelvis* it is not always easy or possible to say that a given case will have to go through the ordeal of an operation. Thus the decision at the beginning of labor in a primipara with a moderate degree of contraction, between the Caesarean section and intra-pelvic delivery is intrinsically so difficult that it is almost impossible to decide, and none but the most experienced should attempt it. We should not decide alone on external

measurements, as there are other conditions that may help out materially. The height of the anterior superior spines above the pubes, length of the sacrum and symphysis, also, the inclination of the sacrum and plevic brim while the patient is standing. A careful vaginal examination with reference to the walls of the pelvis should be made; in fact, it is very necessary to keep a close watch in all cases of labor that you are called to attend, and more especially those cases where from previous history one may anticipate trouble.

It has been said by one of the most expert men in this country, "When a woman with a moderate contraction of the pelvis has lost one child, she should be in the next labor prepared for Caesarean section, and delivered by it unless the course of labor shows some changed condition; e. g., a small child, or a more favorable position, in which case a forceps delivery is likely to be easy."

In a pelvis with 2 1-2 inches or less, it is almost a certainty that the child will succumb. In a case where the contraction is 2 3-4 inches, it is possible to deliver a living child, though the probabilities are remote that it will continue to live—due to long labors as a rule in these cases. One is justified in performing Caesarean section when the conjugate is even above 2 3-4 inches, where the head is relatively enlarged.

In deformed pelvis, those that are likely to give rise to trouble and demand operation are the *uniformly contracted pelvis*, *obliquely contracted pelvis*, and a *flat rachitic pelvis*, all having a conjugate vera of less than 6 1-2 c.m.

It does not follow in every case of deformed pelvis that an operation will be necessary. This is true in contracted pelvis, as in this latter condition the diameter may be contracted in such a manner as to allow a child with a small head to pass safely.

Tumors either of the mother or child may preclude the possibility of delivery. Tumors may be found in the uterus, located either in its body or in the cervix. Fibroid tumors of some size may, if situated in or near the fundus, permit of safe delivery, but if they involve the lower segment or are pedunculated, they almost without exception cause trouble. The same holds good for tumors of the ovaries; as, in one of my cases, a large cystic tumor of the right ovary necessitated Caesarean section. Bony tumors of the pelvis are not so common; however, they may be present, and of such size as to materially interfere with the progress of labor; as, in another case which I operated upon, by Caesarean section, a large bony tumor was found at the sacro-iliac junction near the size of one's fist.

Malignant conditions of the body of the uterus are best treated by section. Some op-

erators much prefer vaginal Caesarean section in cases suffering from malignant condition of the cervix, claiming that they have better access to the parts involved.

Tumors involving the child are relatively rare; however, one condition does exist and is not infrequently met, though not properly classed under tumors; that is, hydrocephalus. A child with a large hydrocephalic head calls for operative interference as delivery in the natural way is impossible.

Eclampsia. There is still some doubt as to the propriety of this operation in eclamptic cases. The mortality is still too high in these cases regardless of the method employed; but upon a close analysis of statistics of a large number of cases treated by Caesarean section, it will be found that in the majority of instances only the worse cases come to operation, which is not a fair test of the possibilities of the operation, and under such circumstances it was found that the foetal mortality was reduced somewhat while that of the mother was slightly raised.

Now if these cases were operated upon at the outset instead of making the operation one of last resort when the mother has had every chance for infection, the mortality to both mother and child would be materially lowered. It is the delay and infection that kills the patient, and not the operation when quickly and skillfully performed. It should be the operation of choice when in the judgment of the operator it offers the best chance of saving both mother and child.

Placenta Previa. Up to a few years ago the mortality where version or Caesarean section was employed were about the same; but so much has been written of late about early operation that Caesarean section has become more popular, and in well selected cases it has very materially reduced both maternal and foetal mortality. This is especially true in central implantation with a hard and unyielding cervix.

The last indication, *vaginal deformities*, are not often encountered. There may be deformity resulting from bands, scars, etc., or the vagina may be unduly small. Any of the above conditions are of sufficient importance to indicate the performance of Caesarean section.

TIME FOR AND CHOICE OF OPERATION.

It was formerly considered time for Caesarean section when all other methods had failed to accomplish delivery; but the mortality was so high that it became apparent that the attending physician should know when the patient was able to deliver herself, and be prepared in advance to apply proper measures for the successful delivery in a given case. The mortality to the mother in version and high forceps are about the same as early

Caesarean section; the foetal mortality is much higher in version or high forceps, amounting to not less than thirty per cent. when done for mechanical obstruction.

While it is very desirable to employ an operation that gives the lowest mortality, it is also desirable to employ the operation that will leave the woman in the best condition and free from morbidities.

This is what can be claimed for Caesarean section. Every one of you will be called upon some time during your professional life to repair the damage done during delivery by version or high forceps, and sometimes you will be successful and sometimes not. These injuries range from rupture of the uterus to laceration in the pelvic floor and incontinence of urine and feces, or a permanently damaged ovary or tube. All these weigh heavily against such procedures in the class of cases under consideration.

I think it can be safely said that while other obstetric operations are sometimes employed, Caesarean section offers better chances to the mother and child, with the minimum amount of morbidity.

Again referring to the time of operation, it is highly necessary to appreciate the fact that the earlier, the better, as it is in those cases that are operated upon before infection has taken place and the soft parts subjected to traumatism that ideal results are obtained. The operation should be done before the membranes have ruptured if possible, as this lessens the possibility of infection. Reynolds, of Boston, in a very extended research upon this point, clearly showed that when Caesarean section was performed early, say before labor set in, the mortality in competent hands is about one per cent. He cites eighty-two cases operated upon before labor had begun, with only one death and says this death could not be attributed to the operation but to a break in the technic; also, one hundred and fifty-eight cases operated upon after the advent of labor, none exceeding six hours, with a mortality of four per cent.; also forty-nine cases that were operated upon very late, with a mortality of twelve per cent. He includes in the last class of cases those who had pains and where the cervix was sufficiently dilated, but says that in badly neglected cases the mortality is much higher.

Caesarean section as compared with symphysiotomy and craniotomy in the light of present statistics and under similar circumstances are as follows:

	Maternal Mortality Per Ct.	Foetal Mortality. Per Ct.
(1) Caesarean Section....	1	1
(2) Symphysiotomy.....	11	15
(3) Craniotomy.....	9	100

THE DOCTOR AS AN EXPERT WITNESS.*

By HON. HERBERT L. WAGGENER, Bardwell.

It affords me great pleasure to have the honor of reading a paper before you at your meeting as I feel that it should be considered an honor to be granted so much of your valuable time to so do, as I realize the great importance of these meetings and how much they mean to humanity in its great strife in combatting the diseases that ravage our country; that at these meetings are brought to light methods by which seeming unsurmountable obstacles may be brushed aside and life meted out to the stricken ones and happiness reign where sorrow and death sought to hold sway in its supremacy. And it is the fruit that is borne from these meetings, gentlemen, that has caused humanity to recognize your profession as the most important in the world; that it is your hands that hold the life-line that has saved countless thousands from being cast into the sea of eternity from which no man may return.

But, gentlemen, it is not always by the use of surgical or medical means or aid that you may save or take a life; there is still another means, if used courageously and honorably, place it in your power to condemn a contemptible murderer or save some innocent man from filling a felon's grave. That, gentlemen, is known as the legal term of expert testimony. Whenever a life has been taken by some unnatural means, it is to the practical experienced physician that the executives of the law must turn for light and solution as to by what means the life was taken, whether by another or by the hands of the deceased himself, and on his decision hangs the life or death in all probability of an accused man.

To properly impart the knowledge gleaned by an examination of a subject, all physicians should know what and how to tell the jury on an oral or written examination by an attorney his conclusions. These conclusions are arrived at in two ways:

1st. By an actual examination of the subject itself.

2nd. By hearing other witnesses testify as to the conditions surrounding the subject and draw therefrom his conclusions.

These conclusions are then accepted by the court and called proof. The physician who is summoned to testify should also know what would be considered proof; hence, what is proof?

Proof is logically defined as the sufficient reason for assenting to a proposition as true, proof comprehends all the grounds on which rests assent to a specific proposition. Proof

*Read before the Carlisle County Medical Society.

should not be tainted with moral conclusions: For example: You may have heard that A killed B. You know that A is a bad man, B has died an unnatural or violent death. You might morally conclude that A did kill B, and this moral conclusion might serve to prejudice you on an examination of the body to ascertain in the manner in which B came to be killed, whether by his own hand or the hand of another. Hence it is essential for an examining physician to lay aside all moral conclusions and keep them from his evidence and examination. Therefore as the evidence of a physician is so essential in cases requiring their conclusions from scientific examination that it is necessary for such physician to know about what medico-legal questions may be asked and what to look for in his examination of the subject, hence so as to illustrate this proposition I will take for example the examination of the bodies of persons found dead, who apparently did not die natural deaths. Under this division arise a great many interesting subjects of inquiry. These as far as possible I shall present in a natural order.

1st. What was the weapon with which the wound was inflicted?

It may become important for many reasons to ascertain the kind of weapon by which the wound was inflicted. It may be a means of identifying the murderer. It may serve to qualify in some measure, the nature of the action, rendering it murderous or not, according to the weapon used. It is possible to infer, to some extent, how the injury has been inflicted from the superficial or deep seated character of the contusion. If a stone is struck smartly with a small hammer the blow is practically expended on the surface, while the interior remains uninjured. But if the same is struck a slow, heavy blow with a ponderous hammer the force penetrates the interior and shivers its center, producing little or no injury of the surface. This principle applied to contusions on the human body justifies the general inference that wounds of a superficial character have been inflicted by the small strike of a comparatively light body, while those which are deeper seated have been occasioned by heavy blows from a more ponderous weapon. It is upon this principle that there are many instances on record where death has resulted from a violent contusion without leaving any external mark of injury.

2nd. The second general question that arises is: Was the wound self-inflicted, or accidental, or the act of another?

The settlement of this question must depend much upon the peculiar circumstances of each individual case. It may be important to attend. First to the situation in which the body is found.

A body found in a room locked on the inside, the throat cut, and the instrument of death near at hand, would not only justify but would require the inference that the act was suicidal. So also it would be about equally clear, if a body found divested of life by a similar wound in a room accessible to others, the weapon of death being removed, that it was neither suicidal nor accidental, but the act of another.

Second. The nature and situation of the wound or injury, may indicate the manner in which this question should be settled. So far as the nature of it is concerned, it may be assumed that contusions are seldom self-inflicted but may result either from accident or homicide? They may, it is true, be inflicted by throwing oneself over a precipice or out of a window, but in such cases the cause of death is very apparent. It is very important to examine the situation of the contusion. It may be found on a part of the body which could not have been injured by an accidental fall, as on the inner side of the legs or arms. Those very severe contusions or lacerations that must necessarily have been produced by a ponderous weapon, such as an ax or hammer, have, in all probability been inflicted by another for a murderous purpose. The direction of the wound will sometimes afford an indication whether it be suicidal, accidental or homicidal. In suicidal wounds effecting the throat the direction of the cut is the most commonly observed to be from left to right, either transversely or obliquely from above downwards. In suicidal stabs and punctured wounds the direction is on the supposition that the individual was right handed which is not always the case. One good method that has been recommended is to place the weapon in the hand of the deceased, and then by moving the hand and arm ascertain whether the wound could have possibly been inflicted by him or directed to a vital spot either to the brain or the heart. Another important thing to notice is that they possess the character of wounds inflicted near the body, such as blackened and burned skin, the wide lacerated wound, the discharged pistol near the hand, often blackened by its discharge and some times within its grasp. An interesting case illustrating this last remark occurred in France in 1895. The body of the deceased was found sitting in a chair by the side of the bed, his elbow resting on the bolster, and his right hand lying over the right thigh and grasping a pistol which appeared to have been recently discharged. The death was evidently caused by a severe gun-shot wound of the head. The son slept in the same room with the deceased and he was accused of having murdered his parent, and then of having placed the pistol in his hand to give the whole as

appearance of suicide. There were some moral circumstances against the son; but the fact principally relied upon was that when the hand with the pistol within it was carried to the position in which the weapon must have been held by the deceased to have committed the fatal act himself, and the hand was afterwards allowed to fall by its own weight, the pistol each time fell from the hand to the floor. The medical witness after some reflection satisfactorily accounted for the hand retaining the pistol after death, by the contractile state of the muscles continuing after death under the form of cadaverous spasm. The fact that knives and razors as well as pistols are not unfrequently grasped in the hands of the suicides is accounted for on the same principle. It is owing to the muscular spasm persisting after death and which is quite distinct from cadaverous rigidity.

The third general question proposed for discussion was: What circumstances can be gathered relative to the motive or intent of the inflictor?

It is well known that to constitute crime the moral element must enter as a constituent part into the action which it essentially qualifies. It is that which creates the wide difference between a mere injury and a wrong. The first may be caused by the kick of a horse or the blow of a maniac. The last can only proceed from a rational creature, a free moral agent. The first is limited in its effects to the mere physical nature which it injures. The last extends to and embraces the moral nature and is there felt as a wrong done to that nature. Hence the law always requires felonious intent to be clearly shown, either directly or inferentially, before conviction can be obtained for the commission of a crime. Any circumstances therefore attending its commission which will throw any light upon the question of intent, provided the fact of homicide is first established, should be seized hold of and eagerly appropriated.

We must look at the nature, situation, direction and extent of the wound. When found inflicted in a concealed part, such as a superficial observer would not be likely to notice, the inference of intent is strong. The female organs of generation have been selected as a part where a mortal wound could be inflicted, and the greatest chance of escape from its consequences afforded. The inflictors of such wounds must have entertained the impression either that they could escape entirely from the want of observation, or that the blood if observed would be attributed to flooding to which females are frequently subject, or that if the wound was actually discovered it might be accounted for by the female having accidentally injured herself by sitting down upon some sharp body. So con-

fident have they been of success that in some cases they have been the first to go for medical aid for the deceased.

In the case of Pollock, which occurred in Edinburg a wound about an inch and a quarter long was found, on separating the labia pudendi, upon the inner side of the right hympha. It was a recent clean incision admitting the point of the finger which could be inserted in four several directions, where the cellular membrane had been divided in each of these directions to the depth of two and a quarter inches. None of the larger vessels had been wounded and death had obviously resulted from hemorrhage. This as in case of a number of others that I might mention along this line clearly, by reason of the nature, situation and extent of the wound, proclaim the intent of the party. They also go to prove that where a highly vascular part is wounded by an incision death may take place in a very short time from the hemorrhage though no large vessel may have been severed.

The direction of the wound may also be an important circumstance to show the intent. This question arose in the case of Campbell who was tried for shooting a man who came to his house at night under suspicious circumstances. The defense was that the ground being rough and slippery the prisoner stumbled and both barrels of the gun had gone off by accident. This account of the matter was confirmed by tracing the direction of the shot in the body of the deceased which was found to be slanting upwards.

The fourth general question or subject of inquiry is as to the acts that indicate volition or locomotion after the infliction of mortal wounds.

It sometimes becomes an important factor to determine what possible efforts can be made by an individual after the receipt of mortal wounds. Wherever this question has arisen it has been generally in cases of injuries to the head, wounds of the heart, large blood vessels, diaphragm and bladder. Important inferences are sometimes sought to be drawn from the position in which the body is found, considered relatively with the supposed position of the murderer; without adverting to the possibility or perhaps probability of the murdered persons having changed his position after receiving the mortal wound.

As the object in this inquiry is to arrive at the maximum or utmost extent of effort which is possible after the infliction of the severest wounds it may be well briefly to mention a case or two which have occurred in which the maximum seems the clearest to have been shown. A man fell from a scaffold on the summit of his head. He was at first stunned, but on reaching the hospital dismounted

and walked upstairs with but little assistance. He died three days later, remaining perfectly rational and going to the water closet the day before his death. On examination afterwards the skull was found split from the frontal bone backwards through the sagittal suture to the foramen magnum. In both hemispheres there was a quantity of blood in a semicoagulated state, more than two ounces being found at the base of the skull.

The particulars of another extraordinary case are that a woman after being knocked down by a blow on the temple, and while down having her throat cut in such a horrible manner as to divide the trunk of the carotid artery and all of the principle branches of the external carotid with the jugulars, was nevertheless able after that to get up, leave the hotel in which the act was done, climb over a gate outside and find her way to a distance of twenty-three yards where her body was found. It will readily occur to anyone that although the power of locomotion may remain after the division of the trachea yet that all power of voice is entirely lost, and hence no calls for assistance can be made at however short a distance the murder may be perpetrated.

The fifth general question regards the length of time that has elapsed since the wound was inflicted.

The length of time that has occurred between the infliction of the wound and the time of examination is often material subject of inquiry. In the case of *Queen vs. Ramon* the prisoner was charged with maliciously cutting and wounding the prosecutrix. There was a cut on his thumb which he attempted to explain by saying that it was from an accident which occurred three weeks before. The medical testimony went to show that it could not have been done more than two or three days, which coincided with the time of the murderous assault. This, with other circumstances led to his conviction.

An incised wound, inflicted on the living body, having its different stages of progress known well by the physician, will on careful examination disclose to his practiced eye to practically an absolute certainty whether or not it was inflicted before or after death, if before, about how long before death it was inflicted, all of which is generally of the greatest importance. In the case of the *State vs. Harlan* the body of a man was found upon the right of way of a railroad company badly mutilated by a train having passed over the body. It was known that there was an extremely bad feeling existing between Harlan and the dead man. On examination by a physician it was found that death had been due to wounds inflicted prior to the time that the man was struck by the train, and that

the wounds made by the striking of the train were all made long after life had become extinct. These observations led to the conviction and ultimate confession of Harlan that he had committed the deed for which he was in due time executed.

The sixth question that we propose to discuss is: Was the wound the direct cause of death? The requirements of the law render it necessary to answer this question. In order that a person can be convicted of murder or manslaughter it is necessary that the individual should die of the injury inflicted. The law can indulge in no speculation on the subject. It requires that the death should be clearly traced to the injury and unequivocally shown to have caused the death. In a combat between two, one receives a wound which may or may not prove to be mortal and is left upon the field. Subsequently he is attacked by ruffians who strip and rob him and beat out his brains. No indictment in such a case would lie against the first assailant, because the deceased dies by the hands of others, and not of the wound inflicted in the first combat. The following case reported will serve as an illustration. In 1898 some drovers had a quarrel in Kentucky, at a wayside inn. In the course of it one of the party was wounded with a knife on the face, hand and upper part of the thorax, near the right clavicle. The injuries were found on examination to be superficial and slight. The wounded man having washed himself soon after started for his home. He was found dead the next morning bathed in blood. The left lung and pulmonary artery were found cut. The medical witness swore that this last was the cause of death, and that it must have been inflicted after the superficial wound upon the thorax which was not bloody, but surrounded by ecchymosis. The fact was, that on his way home he was robbed and murdered.

If a person of a weakly habit receives a wound of which he afterwards becomes cured; but owing to the long confinement he has been made to suffer he is taken ill of a consumption or some other malady incident to such a state of weakness and dies of this consumption or malady; no charge of homicide could be sustained as the death is directly attributable not to the wound but to the consumption or other malady which might or might not have supervened had no wound rendered the confinement necessary.

There must be a certainty as to the cause of death. If the injury sustained be one only, among many causes, that have contributed to the fatal result and the agency it has had in its production not very clearly ascertained no conviction can be obtained. Thus in the case of *William Duff* and others who broke into a house and so affrighted a poor woman in

childbed that she fell into a fever and died. The indictment was held not sustainable. Where, however, the death is traceable directly to the injury and has been clearly produced by it, no matter what may have been the situation or circumstances of the deceased, the prisoner is responsible. If the deceased were on his death bed and in the last stage of a mortal disease, still if he were shot through the head or stabbed with a lethal weapon in such a manner as to produce death sooner than it would have resulted from the disease it is murder as equally as if he had been in the vigor of health.

The last question that arises, and of the most important is: How should the medico-legal examination of wounds be conducted?

A few practical suggestions are all that can be offered under this head of inquiry: It is important, if possible, to examine a wound that presents externally, before the body has been removed from the position in which it was first found. The relations sustained by the body and the wounds, with things external to them, can then, and then only, be properly ascertained.

After examining with reference to these relations the next thing to be remarked is the kind of wound inflicted. Is it a contused wound or a lacerated, gun-shot, incised, or punctured wound? If either what was the probable instrument with which it was inflicted? Is the form and impress of the instrument defined by the contusion, as is occasionally the fact? Can anything be collected from the lacerated, incised or punctured wound in reference to the instrument of its infliction? If it be a knife or gun-shot wound are the entrance and exit holes clearly ascertainable? The existence of all foreign bodies should be carefully noted and they should be preserved. The depth of the ball may serve to indicate the distance from which it was fired, as it is known that the human body has the same resistance practically of an inch pine board. The wadding has identified the murderer. In one case half a ballad was found in it and the other half in the pocket of the accused. The bullet should be preserved to compare with the fire-arms in the possession of the accused.

If the wound be incised or punctured the quantity of hemorrhage should be ascertained with the view of determining whether it was inflicted during life. The bloodless state of the vessels is best ascertained by a reference to the organs of the abdomen and also the state of the brain.

It should be observed whether there is a clot of blood over the cut surface, and also whether any signs of living action are observable. Any appearance of inflammation, of suppuration or gangrene would be evidence of

infection during life. The length, breadth and depth of the wound should be carefully ascertained. The external or other parts of the wound should not be destroyed. As far as possible they should be kept entire. The custom observed in Paris is very admirable and worthy of imitation; that is to make a cast in plaster of all wounds in cases where bodies are found divested of life by wounding and preserve them in one particular place, called the Morgue, where they may afterwards be seen and if necessary appealed to for the purpose of discovering the murderer.

The external wound should be carefully compared with the internal injury, whether it be of blood vessels, nerves, bone or viscera. Fractures require a careful examination, to determine whether they were produced before or after death. The seat of wounds should be described by actual measurement from known points; their figure and nature also carefully noted and their direction ascertained with exactness. The latter may serve to show from what point the wound has been dealt. The most approved mode of examining injuries is if they be not situated over great cavities, to expose the successive layers of muscles in the manner of an ordinary dissection, observing carefully what injuries have been sustained by the parts successively exposed, before they are divided.

All the great cavities should be examined and every important organ in each, however, distinctly the cause of death seem to be indicated in one of them.

After examining the position of the body, things external to it should be noted; all of the objects in its vicinity, with a view to discover on what it rested or fell upon, or had been suspended from; all the marks of a struggle taking place near it; signs of the presence of a second party about the time of death or after it; weapons or other objects, the property of the deceased, or of some other individual; all remains of poisons, marks of vomiting, etc., that may be found near. To a shrewd and cautious observer, many indications of a character similar to the preceding, will present themselves.

And, so gentlemen, you see the great necessity of extreme care in preparing oneself for any and all questions that may arise in the unraveling of a mysterious death, and how very dependent the welfare of the commonwealth and the entire country in fact is upon your knowledge and its value in the upholding of justice, the punishment of the wrongdoer, and the protection of the innocent accused.

SALVARSAN IN THE TREATMENT OF SYPHILIS.

By JACOB SCHULTZ, Logmont.

Salvarsan plays a most conspicuous role in the treatment of syphilis. It has advanced the treatment to such an extent that we can render our patients safe members of society in a few days.

When this important drug was first made known to the medical profession the idea became prevalent, that syphilis could be cured with one dose, but like all new drugs erroneous claims were made by enthusiastic individuals, without any conception of conservatism.

The medical profession should use every effort possible to eradicate this idea, that seems to have become prevalent among the laity, and indeed many of the profession, that a single dose of salvarsan will cure the disease. The newspapers of the country are largely responsible for this report. They obtained data on this subject and published same in their Sunday editions, therefore the news spread broadcast, and the quacks and charlatans began to advertise a cure for syphilis with "606" in a single dose.

The idea of curing syphilis with a single treatment was a daring conception. Our old line of treatment with mercury and iodides running over a course of two to three years was the treatment par excellence before the advent of our new specific. There is no room for any doubt that salvarsan is a specific for the spirochetes of syphilis, whether or not it is specific for the disease depends in my opinion, simply on the question whether or not the spirochetes are accessible to the drug. Of course if some few or remote are buried deeply in the tissue away from the direct influence of the circulation they will survive, reproduce, and the patient will relapse.

It appears from the latest literature on this subject that the profession had decided that the intravenous method is the most practical and decidedly the best means of administering the drug.

While the intra-muscular injections of the alkaline solution seems to give the best results, but owing to its many dangers it has practically fallen into disuse. The method is very painful, pain usually lasting four or five days, also extensive necrosis, encystment of the drug, which defeats the very object of the treatment.

INDICATIONS.

Salvarsan is indicated in all stages of syphilis, with few exceptions, which will be mentioned under the head of contra-indications. I noticed in reading an article in the last issue of the *Journal of the A. M. A.*, from the

pen of Dr. Henry J. Nichols, Capt. Medical Corps of the U. S. Army, cites two cases of syphilis cured by one injection, or dose, of the drug, but he explained the cases as follows: one was an extra genital chancre of the lip with beginning eruption. This case was of two months duration, no previous treatment. Wasserman reaction positive before administering treatment. The same reaction showed negative for twelve months after the first and only dose of the drug. This only indicates the importance of an early diagnosis, and an early and vigorous treatment of syphilis during the primary and secondary stages.

It is too early to make positive statements in regard to the number of treatments necessary to cure a case of syphilis. The whole history of the practical use of salvarsan covers less than two years, the first year being spent practically in experimenting with the remedy, hence a cure, or how often the drug should be administered would be conjecture, and therefore we will have to depend upon the Wasserman reaction in this matter, but the opinion of men of experience on this subject, claim it best to use repeated doses, for instance, give two intravenous injections one week apart, with repetition of treatment after one month, but all cases should be carefully observed, and a Wasserman reaction made every 30 or 60 days, and only in this way will we ever be able to arrive at any definite conclusions as to whether or not we effected a cure.

The cure of syphilis with salvarsan, is a condition in which the drug comes in contact with the invading organism, and is supposed to kill the spirochetes or the spirillum of syphilis *en masse*, therefore we have a reaction from a large number of dead spirochetes liberated in the system, producing endotoxins, which are toxic, that produce symptoms as follows: headache, temperature, and nausea, vomiting and sometimes diarrhoea, which last as a rule from 6 to 10 hours, which passes off and patient is allowed to resume his duties after twenty-four hours unless reaction persists.

In regard to the preparation of the patients for administration of the remedy, it is best to have them remain in bed in the morning without breakfast, give salvarsan about 8 a. m., and have nurse to chart patient's temperature every hour. This should be done in every case as it is a therapeutic test of the efficiency of the drug.

CONTRA-INDICATIONS.

The contra-indications of its use are many and before administering it, the patient should be put through a very rigid examination to ascertain if any pathological condition exists, which would make its use hazardous;

don't use salvarsan in organic lesions of the heart, advanced cases of tabes dorsalis, and general paresis, syphilis of the nervous system, especially of the vital centers, grave kidney lesions, cachectic and debilitated persons, unless due to syphilis, and then in very small and ascending doses, aneurysm, optic neuritis, gastric ulcer, arteriosclerosis and other conditions where increased blood pressure may be dangerous.

With my very limited experience with this new drug I have never seen any bad effects, in fact my experience has been very gratifying along these lines, lesions disappearing in four to five days and patient gaining in weight and strength, and they all insist that they are well or cured as they term it, and when I mention the second, third or fourth dose, they begin to think I am trying to fleece them.

A word in regard to the history of Dr. Ehrlich's discovery of this remedy is like that of tuberculosis, diphtheria and many others. The disease was robbed of its mysteries after the germ was discovered that produced it. In 1903 Dr. Metchnikoff transmitted the disease to apes, which then started the movement that gave it its proper place among the infectious diseases, and threw it open to work along modern lines, which led Dr. Ehrlich to believe that a serum could be worked out that would conquer this menace to humanity. So in 1910 he made known his findings, and therefore salvarsan or "606" as commonly termed, was placed among syphilographers over the country who experimented with the above mentioned drug until to-day it fills the most important place in the treatment of syphilis.

In closing I want to say that salvarsan should be given in every case of primary and secondary syphilis. If it only renders the patient a safe member of society for a few months, therefore preventing the spread of this great enemy of humanity, we could class it as one of the greatest boons that was ever discovered along the lines of medical research.

Negative Results from Roentgenotherapy in Nephritis.—Galausino exposed a number of rabbits and guinea-pigs to the action of the Roentgen rays, striving to detect a curative action on experimental nephritis, but without any apparent result. He was never able to detect a difference between the behavior and findings in the kidneys exposed and in those of the control animals. Similar negative findings were obtained also in six clinical cases of chronic parenchymatous nephritis and one of transient mixed nephritis.

CARE OF PREMATURE CHILDREN.*

By W. Z. JACKSON, Arlington.

My purpose in writing a paper on this subject is not to tell you something new, but to arouse our interest in the care of premature children. I shall speak of the care and home treatment of them from the sixth to the seventh month.

At the Sloane Maternity Hospital, there were 85 cases treated as infants at term, and of these, 4 died, a mortality of 4.4 per cent. 145 were placed in cotton; of these, 12 died, a mortality of 8 per cent.

The appearance of a child from 24 to 28 weeks; subcutaneous fat begin to appear in the region of the neck, shoulders, and breast; the nails are represented only by firm folds of integument; the skin is very red, having the appearance of a mucous membrane. Children born during this period are able to cry softly.

From the 28th to the 32nd week the pupillary membrane disappears, the intense red color fades out, the subcutaneous fat becomes diffused over the body and the nails are developed as far as the finger tips. Children born during this period are viable.

There are three main principles in the treatment of premature children. First, the temperature immediately surrounding the child should be adapted to its requirements; second, its nutrition should be maintained by proper feeding; and third, the handling of or any other disturbance should be reduced to the minimum.

The temperature of the lying-in room should be carefully regulated and the child should be handled with the greatest care from the moment of birth. The rule that the cord should not be ligated until it has ceased pulsating, is here of special importance; meanwhile the child should be wrapped in something soft and warm.

Premature children should not be bathed but may be cleansed with soft cloths and warm sweet oil, as becomes necessary. The action of the skin may be improved by anointing the body every two or three days with sweet oil. Their clothing should be a napkin and a soft flannel shirt and they should be placed comfortably in bed.

Owing to their weakened condition and the sudden withdrawal of the constant nutrition they receive in utero, these children usually live from two to six hours only, unless they are given some nourishment and at this juncture our work and energy in home treatment is required.

As I stated in the beginning, these babies

*Read before the Carlisle County Medical Society.

cry very softly. If they do not receive nourishment from one to two hours after birth, their cry becomes a whine and gradually grows weaker until about the sixth hour, when life ebbs out.

I have been able to save three of these babies and know of no better way to give you the treatment and management of them than to report a case that I have just had.

On the 23rd of last June, I was called to see a lady whom I was expecting to wait on in September. I found her well advanced in labor and in about two hours she gave birth to two girl babies, weighing four pounds each. The last one was breech birth. The parents were very anxious to rear them as they wanted twins and were ready and willing to do all that could be done for them.

We dressed them in their napkins and soft flannel shirts; placed them in the bed, using hot-water bottles as artificial heat; put a thermometer between them and kept the temperature from 90 to 95. Their soft cry went gradually to a whine. I instructed the nurse to give them nourishment with a medicine dropper, which was done at once. Their whine ceased and they went to sleep. They were given nourishment four times during the night with the medicine dropper and this was continued in the same manner every two hours for the first three days and nights.

On the fourth day, we began to use a teaspoon and gave from two to three teaspoonfuls of Eagle Brand Malted Milk, 16 to 1, every two hours for two weeks—day and night. During the next two weeks we gave them five and six teaspoonfuls every two hours and when four weeks old put them on bottle nourishment every two hours 14 to 1. As they grew older, we made the nourishment a little stronger and fed them at longer intervals.

We anointed them every morning with sweet oil; but the most interesting part was the range of their temperature. It ran from 99 to 100 and occasionally 101.

When they were seven days old, one of them was considerably jaundiced. It was sick for several days, but with a little treatment it soon recovered. Afterwards, it had several attacks of gastroenteritis; and it was seized with a severe attack of this distress during the last days of August; its temperature went normal for the first time, sometimes below and remained that way until September the 5th, when it died.

The one that is living was three months and fifteen days old before its temperature went normal.

As I stated, at birth they weighed four pounds each. In ten days they had gone to three pounds each; but when one month old they weighed 4 and 4 1-2 pounds each and at

the end of the second month they weighed 5 1-2 and 6 1-2 pounds respectively. The weight of the one that died was 7 1-2 pounds, when it was taken sick. The other weighed 6 1-2 pounds when it was three months old and at the present time it weighs 12 pounds and seems to be well and hearty.

Another peculiar feature was that during the warmest weather, when we would take the hot-water bottles out of their bed they would grow cold all over. So, we had to be very careful as to the temperature in which we kept them. It required the closest attention day and night to save their lives.

I hope that my few remarks will stimulate the members of our society to give more attention to these little premature children and not to think because they are premature that it is useless to try to save them.

We never know what a life holds,

To save a life is great gain,

To save a life is our aim.

THE PRESENT STATUS OF CANCER OF THE UTERUS.*

By C. N. COWDEN, Nashville, Tennessee.

The problem of cancer is one of the most important before the medical or surgical world to-day. It is certainly on the increase, not only as a disease of modern life, but from other subtle and mysterious causes that, so far, modern science has failed to explain.

It is almost the only disease that is steadily and rapidly increasing among the civilized races of the world. Cancer at its present rate of increase will soon be more numerous and fatal than tuberculosis. With the aid of the International Congresses, medical associations, the press at large, health boards, woman's clubs and education of the public in general, we have finally begun to decrease the mortality from tuberculosis. One of the partial triumphs of the twentieth century. And yet none of these great influences for stamping out or limiting the spread of this disease has been placed on foot to bring before the laity or the greater part of the profession the known and accepted facts in regard to cancer and its cure. If we could get the laity to recognize the fact that one woman in eight and one man in 18 beyond 35 years of age, die

*Read before the Logan, Warren and Simpson County Medical Societies.

of cancer, they would at once become interested.

It has been shown by painstaking statistics compiled by Meek, that cancer of the uterus forms more than one-third the number of primary cancers. According to Kelley, out of 11,000 cases, reporting in fifteen years at Johns Hopkins for gynecological treatment, 412 were for cancer of the uterus. Crile estimates that we have more than 80,000 cases in the United States to-day, or practically one per cent. of our population at the present. This means of course, cancer of all organs of the body, but as stated above, cancer of the uterus easily leads the list in frequency.

It is certainly a very timely and interesting problem that confronts us to-day, and the question is, What have we done and what can we do to prevent its mortality, that in untreated cases is, practically, one hundred per cent?

Of course we ultimately hope to find the cause of the disease and so attack it at its source, and to this end thousands of dollars are being expended in careful and painstaking investigation, employing some of the keenest minds in our profession in research and experimentation. But so far, we have to say in all candor that the results from a practical standpoint have been universally disappointing.

At the present time it seems that the cause of this dread malady is as far from solution as it was years ago. But many of as seemingly impossible things have been done in the past, and many of our investigators believe that the solution of cancer is to be worked out at a very early date.

At the Southern Surgical and Gynecological Association that met in our city a short time ago, in the symposium on cancer by four different men of international reputation, four distinct views were advocated as to its etiology. One the microbe, one the traumatic, another heredity, and the other advocated the old Conheim theory, to which we must apply to all their theories the Scotch verdict "guilty, but not proven."

The most enthusiastic and prominent medical man would be disbarred from the profession and tabooed by his confreres, should he claim a single cure. Serum therapy and immunizing vaccines that have wrought miracles in combatting many diseases, have been of no help at all in the treatment of this disease. The X-ray and radium that at first promised so much, are now regarded by those who are competent to give an opinion as of being only in the experimental stage and of little or no value at the present time, except perhaps in the most superficial cases of skin cancer. To-day the surgeon only is dealing with it in some of its different stages.

Another embarrassing phase of the question is—we are sometimes asked as to the heredity of the disease. For instance, a mother comes to us suffering with cancer and asks if her daughter is likely to have it. Again, the daughter whose mother has died of cancer wants to know if she could have inherited it from her mother. Both practical questions. Parke sums up the answers as follows, "Perhaps there is some danger. But simply because of its liability of a transmission of a predisposition. It is not possible to inherit disease which was not present when the individual was born." But it is a well-known fact that different members of the same family develop the disease. We just had a fatal case of carcinoma pylorus, making the fourth in one family. The mother, sister and two brothers, all dying beyond sixty-five. That it is inoculable is denied by none, and many of us have seen it develop in the line of an exploratory incision or follow the tract of an exploring needle. That it is contagious seems probable when numbers of cases have been traced to certain houses, occurring so regularly among the occupants thereof, as to designate them "cancer houses."

The scope of my paper, however, is not to deal with the etiology of the disease so much as it is to deal with the practical side of it, and see if we can't formulate some plan or attitude in regard to the matter that will in some way lessen the mortality of this, most dreaded of all diseases that human flesh is heir to. And in order that we may the better and the earlier take up the discussion of the subject, I lay down a proposition that every case of primary cancer is a local disease, that there is, or was, a time in all malignant neoplasms when it was a harmless growth, and could be, or could have been removed, or cured. Again I think I am justified in saying that no well balanced open mind doubts for a moment that the only cure for cancer at our command to-day lies in its total destruction or extirpation by surgical means. And it is of the utmost importance that every member of our profession should know just what surgery has accomplished and what can be expected of it in curing this disease.

Let me for a moment call your attention to some of the most common forms of cancer. See what percentage of cures surgery gives, and endeavor to learn from them how the percentage of cures can be increased.

We cure cancer of the lip in practically ninety per cent of the cases. Why? Simply because we see it in its incipency in many cases, in fact, in the so-called pre-cancerous stage. Under these conditions the surgeon is practically triumphant in nearly every case. In the Johns Hopkins Clinic, 47 per cent. of all cases of breast cancer with the radical op-

eration have remained well for the three years' limit. In another group of cases that were not advanced far enough in which a diagnosis was only made by a microscopical section at time of operation, 96 per cent of cures were given against 100 per cent mortality if left alone.

We are again told by our pathologists that cancer of the uterus does not differ in its biology from cancer of the visible surfaces of the body, and could it be seen in the same stage, it would be just as amenable to surgical cure. But surgery can do no more. It has reached the limit, for certain it is that nothing more radical can be conceived than the procedure of Clark, Sampson and Wertheim, who have perfected this modern technique of major surgery.

If better results are to be obtained than we are getting to-day, success must rely on some other outside aid. And this aid is surgery, plus, *always plus*, an early diagnosis; and as the surgery pertaining to this condition is perfected, the diagnosis of cancer of the uterus involves more responsibility than any other phase connected with the subject. Every mistaken diagnosis, yes, even a delayed diagnosis, costs a human life, because the cancer in the mean time becomes inoperable.

Taking the statistics of Johns Hopkins again, they report that of the cases presenting themselves to the Clinic for treatment, 70 per cent of them have reached such an advanced stage of development that no operation save a palliative curriement could be considered, and in more than sixty per cent of these cases the history elicited by the patient, that it had existed for a period of six months or more, should have sent the patient to the doctor for consultation and advice. Hence, in order to lower our present mortality, our hope lies not entirely in the general practitioner who practically sees all of these cases first, but we must start a campaign of education among the women of our clientele, and there can be no doubt that the most important agent in the instruction of the public is the general practitioner.

We are agitating the question of tuberculosis in all of its phases before the public to-day, educating them and results are prompt and encouraging. Why not go before our womens' clubs with knowledge upon this subject, that thousands will, if they are not now, become interested in. If it does not touch them individually, it will enter their circle and claim as a victim some kindred or friend.

Almost all women, especially all married women, have a more or less intimate acquaintance with some physician with whom they can converse at one time or another on the subject of their own health or that of their relatives or friends, and in whose opinion

they place great confidence. If they have not, they should have, for anything else is false modesty and prudish. If every physician would take advantage of the opportunities offered him by such confidential relations with his patient, to point out to her the significance of a slight hemorrhage, or any change in the character of her menstrual discharge, or pelvic pain occurring about the time of the menopause, he would accomplish more toward diminishing the mortality of cancer than can be done by any other means at our command at present.

Freedom from pain leads many patients into a sense of security. The laity should be taught that cancer is a painless disease, pain comes late due to some complication. The danger lies in the fact that these insidious symptoms occur about the "change of life," and these women and not a few doctors, have had inculcated in their minds the idea that at this special time all sorts of irregularities occur and are of no significance or importance. The woman herself may be impressed with her condition, and consult one of her elder friends who assures her that it is only "change of life." She in many cases later consults her doctor, who reassures her that such changes mean nothing, and in a short time all will be well with her. In many this will be true, but in the meantime those cases in which the symptoms are due to incipient, malignant disease will have passed into the inoperable stage, and the only hope of relief will have been lost.

We should teach our patients that the menopause is a physiological process, not attended with any symptoms unless attended by some pathological complication of the generative tract. All women who have borne children, approaching the cancer age, should be impressed with the fact that upon the appearance of any of these slight changes, she should come for a thorough examination by her doctor, not once, but again and again, and this would at once result in the discovery of a great many of these incipient cases that could unquestionably be relieved by the surgeon's knife.

Hence, to make the attack upon cancer effectual, it must be done in an early diagnosis. And what have we to say about the early diagnosis of cancer? It is most difficult indeed, and in some cases impossible. Why is this? Is it the fault of the doctor, due to his lack of skill and experience? Why is it, and we are sometimes asked this by the laity, we are unable to recognize this disease? Russell Parke gives the answer, namely "cancer as such, has no distinct symptomatology."

The signs and symptoms that we see in our cases and read in our textbooks, are not those of the disorder itself, but of some of its de-

generative consequences. The inaugural signs and symptoms are wanting and hence the diagnosis is made perhaps after a long latent period. The symptomatology of cancer will have to go through the changes as did those of appendicitis, in which for a long time the symptoms attributed to this condition were not those of appendicitis at all, but those of a perforative peritonitis. The same has been the history of gastric and duodenal ulcer. They were not recognized as such until secondary complications had arisen, such as hemorrhage, stenosis or perforation. The same evolution has been passed through in gall-bladder pathology and an advanced step like the above is sadly needed in regard to cancer of the uterus, that we may be enabled to take advantage of the precious element, time, wherein lies the patient's only hope of escape by an early operation.

True it is then, that an early diagnosis is the most important phase of the cancer problem to-day. How to make the early diagnosis is the question. An enormous amount of research and investigation is being carried on to-day throughout the medical world to discover the precancerous pathognomonic symptom or group of symptoms that would lead us aught. In attempting to discover some distinctive indicator of early malignancy, the secretions and excretions have been diligently searched, but anything distinctly characteristic of urine, feces, gastric contents, etc., have been sadly wanting.

A comprehensive study of blood findings in many hundreds of cases of early or advanced cancer, forces one and all to the conclusion that diagnostic significance could not be placed upon the variations of the different constituents of the blood. The serum tests and those similar to Widal and Wasserman and others, have only given unsatisfactory results, and if they did, they are perhaps more difficult to make than a microscopic test that is usually made after all other symptoms are positive. These tests are all special and are required to be made by an expert pathologist. So by the time the patient is subjected to any of these technical tests, it is too late for surgical intervention.

It is our misfortune that it does not have a distinct symptomatology of its own. When you can feel it you may recognize it. But what is going to bring the patient to you for this digital examination? She must have some excuse that will cause her to seek advice, and after she comes, there is not one symptom produced by cancer, either early or late, which may not be produced by some other disease of the parts.

"Therein," says Parko, "we find our excuse for failure to recognize it early, and therein we find our difficulty of coping with

it." Right here, Tausig of St. Louis, in a recent article gives us some data after reviewing 41 consecutive cases, that will be of help to us.

In taking the history of the cases he gave special attention to the following points. First of all: "How long an interval elapsed between the onset of the first noticeable symptom and the date of the first consultation? Second: How many doctors failed to make a thorough examination at this first consultation? Third: How many have failed to recommend an immediate radical operation?"

He found that ten out of thirty-two women concerning whom accurate data was obtained, could safely attribute their death to the neglect or ignorance of the attending physician, and reports by contrast several of the cases in the series, where an early and thorough examination had been secured, an examination made, the radical operation advised and accepted, followed by a cure.

He sums up the article as follows: "The blame for the late recognition of uterine cancer rests mostly on the woman herself. In about 90 per cent. of the cases the carelessness or ignorance of the physician was entirely or wholly to blame. Only 20 per cent. of the cases presenting were operable with any hope of recovery."

Hence, under all circumstances the physician should insist on making an internal examination at once, if there is the slightest suspicion of cancer. Nothing should deter him, neither lack of time, his own convenience, nor lack of confidence in his technique or ability to make a correct diagnosis. Not even the fact that the patient is flowing at the time.

All this delays a diagnosis, and then the patient herself makes enough objections. Some women are ashamed, others afraid of pain. Others dread a serious diagnosis or the physician's counsel to undergo an operation. Others resort to any excuse that occurs to them, in order to escape the hated examination. We must be anxious to make a thorough examination and overcome every excuse or objection of the patient, and especially must this be the case where there is a suspicion that a given case might possibly be a cancer.

An ironclad rule should be made to insist upon not only a digital examination but on a visual inspection of the uterine cervix, and if any faint suspicion is apparent a resort to the means of a positive diagnosis should be demanded and a candid frank statement made to the patient. She is anxious and willing to accept anything for relief. Less than this is gross negligence on our part as physicians, and in the majority of cases we will be able to recognize the cancer correctly at the first ex-

amination, under almost all circumstances.

The practice of some doctors keeping under observation a patient presenting suspicious symptoms of cancer in the hope that the destructive tendency of the growth may show itself, is a gross error upon the part of the practitioner, and deserves to be censured more than the one who gets a poor result from reducing a fracture, for in the latter case it means only a useless member while in the former it means death in at least 80 to 85 per cent.

I have had occasion to observe that among experienced physicians two factors play an unjustifiably important role in the diagnosis of cancer. The cancerous cachexia, and the well known "forty years." Gentlemen, after the cachexia appears your patient is doomed beyond any hope, and as to age, it may occur at any period of a woman's life, from 25 on to extreme old age. But it is a fact that it does not occur more often about the climacteric period. Hence age must deserve some consideration in the possibility of cancer.

Another thing having some weight is the number of pregnancies, all agreeing that the disease is rare in the multipara. In fifty cases reported by Cullen, all had borne children but one, and she had a mechanical dilatation.

After consideration of these two factors, we come next to the consideration of the more significant signs of disease, and usually they are so insidious that by the time symptoms manifest themselves, the patient is on the borderland of inoperable cancer.

What we wish to do is to adopt some practical mode of procedure that will enable us to determine with some degree of certainty in patients with uterine diseases, whether or not malignant infiltration is present. Malignancy is always a chronic condition and there is always present infiltration or ulceration. In the cervix if there is induration, it can be felt. If there is ulceration or erosion, it can be seen. If this ulceration or erosion is within the cervical canal or fundus of the uterus, it will cause a troublesome discharge.

Called to see a patient with pelvic disease, if we find no infiltration of the cervix or fundus, no ulceration or erosion of the cervix, and no troublesome pathological discharge, we are safe in concluding that the uterus is free from any malignant trouble. When any of these signs are present, we must make a differential diagnosis.

To aid us, we make three classifications of symptoms: the early symptoms, the late symptoms, and positive symptoms. Among the earliest symptoms noticed by the patient, the one that brings her for consultation and advice is usually a bloody stain now and then between the menstrual periods. It is especially noticeable after sexual intercourse or any

undue effort or exertion. The patient when her attention is called to it, may remember her periods are a little more profuse than usual, and that she is flowing a day or two more. And to this is added, a slight increase in her leucorrhea if she has had one, or if not, a thin watery secretion makes its appearance, that is sometimes tinged with blood.

This discharge is very characteristic. It is due to over-stimulation of the muciparous glands in the neighborhood of the growth, non-irritating and without odor. Under a vaginal examination in this stage, the cervix is slightly enlarged, very firm, and sometimes glazed in appearance, with seeming increase in vascular supply, especially in the prominence and size of some of the blood vessels. The examining finger is usually covered with blood, and even brushing the surface with cotton will usually be sufficient to produce a slight stain.

Heitzman has given us at this stage a very simple and practical test with the copper sulphate solution. Soak a pledget of cotton in a ten per cent copper sulphate solution and apply it for a minute or two to the suspicious surface. If the lesion is a simple erosion, a bluish white coat will form without hemorrhage. By repeating the applications at intervals of a few days, the lesion will be healed. If the lesion is cancerous ulceration, the application will cause bleeding. A few days later another application is made, and the bleeding is more profuse, a diagnosis of incipient cancer is almost certainly correct, and will rarely fail to be confirmed by the microscope.

At this early stage there is a tendency to friability of the tissues. Your tenaculum hooked in the cervix tears out easily in contradistinction to a toughened condition found in almost all inflammatory processes and conditions except recent subinvolution.

You do not have pain, any great amount of hemorrhage, stinking, irritating, discharge, anaemia or cachexia in this stage. But in the late or second stage we have them all. The patient begins to have pains in the pelvis. The periods become so profuse as to amount to a hemorrhage each month, and often we have hemorrhages taking place between the periods. If the woman has passed the menopause and has a return of the periods as she terms it, it is almost pathognomonic of malignancy. The leucorrhoeal discharge becomes very much increased, develops a clinging, penetrating, stinking odor, and often becomes very irritating. The patient begins to show signs of ill health, grows anaemic from loss of blood, and then the telltale cachexia makes its appearance. The cervix is now hard and often nodular, with ragged edge, foul covered ulcers showing on the cervix, or the friable,

vegetating cauliflower growth begins to send out finger-like processes on the surface of the cervix and to fill the vagina that bleeds freely at the slightest touch.

A tenaculum hooked in the tissues, tears out easily, and signs of a breaking down of the tissues is very evident. But by this time, we have two cardinal, clinical features of cancer, namely, neoplasm and degeneration, and the diagnosis is easy. If one is absent, either the tumor or the ulcerative process, the diagnosis may be very difficult or clinically impossible.

Then comes the third and positive symptom, or rather reliable evidence, that which is educed by the microscope. Every cervix that is irregular, hard and nodular, should be regarded as suspicious, especially if it is eroded or ulcerated and bleeds easily. If this is found, a snipping should be taken for microscopical examination. This should be taken in the form of a wedge, including both the ulcer and some of the cervical tissue beneath. The cervix is practically devoid of sensation, and a specimen can be obtained with very little pain, or painless with a small amount of local anaesthesia, and for the future mental condition of your patient, it should be done without her knowledge. For almost invariably, if the patient is told we wish to remove a small portion of the uterus for examination, it will be declined.

The statistics of operation for cancer of the uterus offer many uncertainties. In some instances the surgeon has run very little risk. Selecting those cases in which an early diagnosis has been made, thereby they have been able to report a goodly percentage of recoveries. On the other hand, there are those who disregard statistics altogether, and operate where there is the slightest possibility of saving a patient. We are sometimes in error as to the stage of the disease, as in quite a number of cases in which the disease is apparently in a very early stage, upon examination, when the abdomen is opened, we find it impossible to remove all the cancerous tissue. And again, apparently widely disseminated areas are found to exist which when opened up are entirely confined to the limits of the organ.

The question might well be asked, when is a case inoperable? In general terms it may be stated, when a cancer of the uterus can be diagnosed unhesitatingly as such, by the touch, sight or history, it has progressed already to the borderline between possibility and impossibility of a cure, and perhaps there are more chances against a cure than for one.

In all cases where it involves the anterior vaginal wall behind the bladder, or the posterior vaginal wall, spreading towards the rectum, or where the glands in the broad liga-

ment can be palpated, or the mobility of the uterus is even slightly interfered with from induration or infiltration, or in other words, where it can be demonstrated that the process has passed outside of the organ itself, the case is not one for the radical operation, and if done will only bring surgery into disrepute with no benefit to the patient. This is the class of patients reported by Baldy, with a return in ninety-six per cent of cases operated upon.

This high mortality rate was not due to his technical ability, but to the time or stage when he saw the case. A considerable step will have been taken towards the desired eradication from the public mind that cancer is an incurable disease, when operators can be restrained from undertaking those unwarranted procedures; for the last state of the woman is invariably worse than the first, and surgery bears the credit of the failure.

But what can be done for these cases? I am convinced by a very limited experience that the use of the cautery advocated by Byrne is the simplest and most effectual treatment that can be used. When large areas of ulceration are present, the curette may be used to advantage. Then, after protecting well the vaginal walls from contact with the cautery, the entire surface of the cancerous mass is burned away, care being taken not to penetrate the cavity or any of the hollow viscera. One advantage over the escharotics and pastes is, no one can foretell how deeply they will destroy, and the curette is often followed by rapid dissemination through the lymphatics. The actual cautery effectually closes the open mouths of the lymphatics, and so materially interferes with the nutrition of the cancer cells, producing a retrograde metamorphosis in them, destroying to a great extent their activity and growth. Cauterization should be repeated as often as necessary to limit the growth. Tampons of ichthyol and glycerine should be used, and bi-weekly application of iodine to the ulcer after the eschar sloughs away.

Gelhorn, of St. Louis, uses the curette and makes application to the cavity of acetone, reporting several very interesting cases of inoperable conditions that were very much benefited by its application.

After these palliative measures, no matter of what they consist if thoroughly done, they are usually followed by good results. The hemorrhage is controlled, the pain is very much lessened, and with these relieved, the comfort of the patient is very apparent and the nutrition of the body very much increased.

It is unfortunate that women with inoperable cancer should be undesirable patients at most hospitals, as much can be done to miti-

gate their suffering and prolong their lives. It is indeed pitiful to see just how little is done towards ministering to these, of all patients the most miserable, and how frequently every shadow of hope is taken from them by some unfeeling friend or perhaps the doctor, by not withholding the truth as to their true condition. They deserve a great deal from us as practitioners of the healing art.

To recapitulate: Cancer of the uterus is a curable disease when seen early, by an operation with practically very little danger. Complete extirpation of the uterus is the only method of cure at the present time, but the percentage of cures is far below what it might be made.

Our only means at present to lessen the mortality is by a campaign of education directed first to the general public by the family physician, that they may recognize the early signs of this disease, and not neglect to consult the family physician upon the occurrence of these symptoms about the menopause.

Second, The family physician must be made to realize that any disturbance about the menopause is very significant, and must be thoroughly investigated to ascertain the cause.

The knowledge regarding the possible serious significance of certain trivial symptoms does practically no good to any one as long as it is confined to the profession itself. It must be known by those in whom cancer is liable to occur.

Third. It is time for the profession to realize, that any disturbance about the menopause is very significant and cancer is to be suspected. In other words, the lesson to be driven home is that cancer is to be suspected in the great majority of chronic conditions, in which the exact nature is not definitely known, and must be followed by exclusion or demonstration of the disease.

Lastly, we want to emphasize the ease of obtaining a specimen from the cervix or by curetting the cavity, for a microscopical examination. If we ever do any more for cancer than at the present, it must be done by an earlier diagnosis.

Interpretation of Uterine Curettings.—In order to inaugurate a reform, Frank says, the clinician will have to insist, in the first place, that the pathologist, who, as a rule, takes but a perfunctory interest in uterine curettings (aside from the possibility of carcinoma, chorio-epithelioma or other tumors) take cognizance of our more recent knowledge; in the second place, he will be obliged to check in himself the pernicious and deep-rooted tendency to ascribe a great number of heterogeneous pelvic symptoms to inflammation of the endometrium.

"THE OLD TRANSYLVANIA UNIVERSITY OF OLD KENTUCKY."*

By JACOB GLAHN, Owensboro.

It is a dirty and ungrateful bird, that be fouls its own nest!

In begging the pardon of this learned body, physicians of Daviess county and Kentucky, for the introductory sentence of this article, I will try to justify its assertion in the procedure of this essay.

Are the institutions of learning of Kentucky, especially of Medicine, or have they ever been, behind the times?

"By their works you shall know them!"

All things equal, Kentucky is, and always has been, averse to cant, false pretenses and learned assumption.

The pioneers of Kentucky, mostly Virginians, for Kentucky sprang from Virginia, and men from other Southern states, honest, fearless, many well educated, all very close observers of nature and men.

Men and women of this type are not slugs, as history proves, they performed almost miracles of endurance and hardships for the sake of home, civilization and culture, and Kentucky, *non plus ultra*, without an equal, and *nec pluribus impar*, a match for all, is the living example of perfection of any State in these great United States, all accomplished in less than one hundred and fifty years.

As beauty is a relative term and has to be studied individually, so even the development of States should be observed by the many on the ground and at a distance, so as to be careful not to slander our neighbors and friends. Study the history of the world and the development of the human race and see how slow the evolution of civilization progressed. Remember the thousands of years of groping in utter darkness! In fact there was no culture to speak of, only if there would have been any real culture, Greece and Rome would not have destroyed each other; so it was only a sporadic awakening of culture, in Greece and Rome amongst the millions of barbaric tribes of the world.

True culture and civilization does not destroy, but builds up.

After the immigrants crossed the eastern mountain ranges and the great forests and in quick order established homes, hamlets and cities, they, by the very nature of their blood and raising, saw the necessity of schools and universities. So the Old Transylvania University became a fact; I use the term in a large sense, as all institutions of learning to-day in Kentucky had their inspiration from "The Transylvania University."

*Read before the Daviess County Medical Society.

Transylvania as a word indicates its meaning: "Beyond, across the forests."

What a grand, deep, soulful meaning, a university, an institution of learning, forcing its way ahead of any other state or territory, across great mountain ranges and unknown forests, a university in the wilderness, "The old Heidelberg of America," for the education of the sons and daughters of the early settlers of Kentucky.

This shows Kentucky to be the actual vanguard of civilization and culture of any state west of the great mountain ranges of the east.

Kentucky was learned and great, when Pittsburg of to-day was yet Fort Douquesne; Cincinnati, less than a hamlet, Fort Washington, and Chicago a mere corral in a plain, Fort Dearborn; the rest of this country, as before indicated, was nowhere in comparison with Kentucky.

Clark, Shelby, Todd, Sevier, Boone, Daviess, Clay, Lincoln, Helm, Crittenden, Brackenridge, Flaget, Spalding, O'Hara, Harlan, Gross, McDowell, Cobb, Cook, Bell, Bodine, Palmer, Yandell, Holland, J. N. McCormack, Watterson and too many more illustrious names as to be named in this short address, are only a few chiefs who carried civilization, culture, science and literature, established Government in and influence far beyond the borders of Kentucky.

Is it possible, that one man alone, born and reared in Kentucky, who belongs, I am loath to state, to that keen-sighted, kindhearted, tenacious race without a country, cannot have a soulful understanding of that unselfish patriotism, which so many Kentuckians have proved, and stamps them as well as their descendants and their state with undying lustre and fame? Their descendants have upheld what their forebears began, look at our vast fields, our pretty villages, thriving cities and institutions of learning, of charity and sympathy; do they not speak for themselves in the highest terms of accomplished actions, attained in a comparatively short time with the mearest means at hand?

What state has produced greater soldiers, statesmen, teachers, jurists or physicians?

What state has produced greater philosophers than Kentucky? Whence did New York, Pennsylvania and other states of the East draw their leading professors and teachers from? You all know, then as now, from Kentucky!

Kentucky, the *sine qua non*, most brilliant and scintillating diamond in the galaxy of great states of this Union stands foremost in home life, culture, science and benevolent brotherhood; her children's hearts are leavened in sympathy of their fellowmen and neighbors, they are brought up in a high

sense of justice. The school teachers of the public as well as parochial schools are ladies and gentlemen in the highest sense of the word, mostly descendants of the before named pioneers. So the spirit of seventy-six is forever being propagated in our young, which bespeaks well for the future.

In Kentucky, thank God, commercialism has not overcome character as yet. We still ask of a stranger, who is he? not how much has he? A man is still a man in Kentucky. Freedom and emancipation of manhood is in the air in Kentucky. Look what sermons brooks, rivers, cliffs, woodlands, rocks, and dells preach!

Oh! physicians of Kentucky, are your hearts so callous as not to receive an inspiration, when you ride through the mountains, the rolling country, the sugar cane or hear the rustling of the ripening corn— or listen to the call of the whip-poor-will, or the cooing of the dove?

Gentlemen: This is a nation in the making, intrepid men and women from the whole civilized world have come here to establish a home; a home of freedom and peace, a home not tampered by petty jealousies and cowered by officials or uncongenial governmental paternalism.

All these people represent the best energies and thoughts of the countries they left behind. Many of them bring technical skill in many specialties and others well educated brains and brave hearts; a nation growing and building with such material is bound to become the headlight of the world, and older nations are setting up and beginning to take notice with astonishment and admiration.

We have to be doubly careful, as not to become overbearing in the eyes of the nations of the world, because such weakness belongs only to the shoddy rich and their servants, not to the real man.

The death rate of Kentucky as well as the calls for charity compare well with any of the older states, this proves that our physicians are not lacking in proficiency as compared with other states. Our laboratory equipment of our University has been unjustly criticised by one raised in Kentucky; because accused of being larking in a little glassware and such like utensils, just as well criticise women's fashions and clothes; they are good for show and a season, and especially who wears them. But after all, no laboratory alone ever made a good physician, a bedside practitioner, for it takes more than a little test-tube chemistry or microscope to make a man, an emancipated Doctor of Medicine.

Our highly salaried researchers in endowed institutions, were never physicians, bedside practitioners, they don't know anything about the symphony of the pulse of man in health

or disease, and since they do prate so much about the magnifying power of the microscope I often wonder and deplore, why not some one has discovered an instrument "a Nurenberger-Trichter" a mental microscope, that would instantly tell those wise investigators the relations to the natural law, of what they see under their focus on the slides, etc. Logic, the mental microscope, is hard to acquire, and takes years of hard work, observation and humble application, especially at the bedside.

No man, who has gathered these kernels of truth, cares for notoriety. The tendencies of serum therapy, as it is made notorious through endowment-institutions and serum-factories, is distinctly harmful to the science and art of medicine, especially so to the medical student and graduate in medicine of the new era, because science is ever evolving, therefore methods of treatment changing, and if this madness is persevered in, laboratories for the manufacture of serums, and endowment institutions will become the medical directors of men, and physicians, learned men are not needed any longer in the profession of medicine, a hypodermic syringe, a little package with instructions from serum factory to an excuse (save the mark) for a specialist, will constitute the eventual physician of the future.

If medical philosophy amounts to anything at all, in these modern times, it ought to mean this, that a weak solution of carbolic acid, fortified with a little chloride of lime and soda, as the momentary synthetic and fermentative disturbances may indicate, should replace all these very expensive products of the serum factories; for in its last analysis this is about all, antitoxins can contain and the actual benefit can only be derived from a few named chemicals; carbolic acid, water, lime and soda; but the last word along this line has not yet been uttered. But let us not be fearful or troubled for happily the American physician, and especially physicians of Kentucky are ever wide-awake to the truth and always on the alert as things turn up, they will not take everything as final or as absolute, what is handed down from New York, Chicago, or even from Europe.

Gentlemen of the Daviess County, Kentucky, Medical Society: Permit me, who knows you so well and who has lived among you and who worked with you in the same cause for so many years, to congratulate you, for the attainments you possess and high position you hold in the Kentucky State Medical Association.

NEWS ITEMS AND COMMENTS

ADAIR—Dr. S. J. Simmons, of Gradyville, is spending a few days in Louisville and Frankfort.

LEE—Dr. G. S. McDonald, of Beattyville, has moved to Estancia, New Mexico, where he will make his future home.

BELL—Dr. Mason Coombs, who has been taking a post-graduate course in New York, has returned to his home in Pineville and will open up an office there in a short while.

BOONE—Dr. Peddicord writes that there is one case of scarlet fever in Florence, Boone county, but that the household is under quarantine and they do not expect an epidemic.

BOONE—Dr. H. H. Hays, of Bullittsville, is in the Bethesda Hospital, Cincinnati, where he has recently undergone an operation for a diseased shoulder joint, caused by a dislocation received during the holidays.

BREATHITT—Dr. John Mason Kash, of Jackson, a highly respected physician of that place, died on January 30th, 1912, while on a visit to his daughter, Mrs. Floyd Days, at Winchester. His death was caused from paresis and acute nephritis. He was 74 years old.

CARLISLE—The many friends of Dr. John R. Owen, of Arlington, will regret to learn of his death, which occurred on March 8th. Dr. Owen was a member of the Carlisle County Medical Society and stood high in his profession. We extend our deepest sympathy to his bereaved ones.

FULTON—There is an epidemic of whooping cough at Hickman, many of the school children having it, and children in all the surrounding country around Hickman. In several instances the malady has been fatal. Many grown people are also suffering from whooping cough.

SIMPSON—Dr. M. M. Moss, who is the County Secretary of Simpson County, has gone to New York to take a post-graduate course in the Polytechnic Medical School and Hospital, after which he will attend the American Medical Association, at Atlantic City.

HART—Dr. J. H. Hester, of Munfordsville, the very efficient secretary of Hart county, has gone to Chicago to take special work in the Chicago Eye, Ear, Nose and Throat College and will probably be away six months or

more. Dr. J. J. Adams, of Munfordsville, will act as assistant secretary while he is away.

KENTON—At a meeting of the City Council of Covington, the ordinance creating the position of a bacteriologist in the Health Department was passed and the salary was fixed at \$800 a year. The ordinance reducing the salary of the Health Officer from \$1,800 to \$1,000 a year was also passed, and the two positions will now be filled at the same cost to the city that has formerly been paid to the Health Officer.

WARREN—Dr. W. L. Heizer, the Vital Statistician of the State Board of Health, gave an address at the Y. M. C. A., on March 9th, at 3 o'clock. Dr. Heizer has been a most acceptable speaker all through Kentucky and adjacent states, and it was a treat for the men of Bowling Green to hear his earnest presentation of facts coming straight from lessons of his own experience and discovery.

CLARK—Dr. R. W. Wood, who recently resigned the position of Assistant Superintendent of the Eastern Kentucky Insane Asylum, has located in Winchester. If there is anything in the old adage of "The more the merrier" Winchester should have a very jolly bunch of doctors, as there are twenty-eight engaged in practice at present.

BATH—Dr. N. T. Clark, of Olympia, is in the Good Samaritan Hospital at Lexington, suffering from appendicitis.

Dr. L. F. Robbins, of Salt Lick, is slowly convalescing after an all winter siege of a complication of diseases.

Dr. Dailey writes that they have had no epidemic of any kind this winter in his county.

DAVISS—Dr. W. E. Holmes took 3 1-2 oz. of carboic acid in his office at 7:30, March 4th; telephoned five blocks to his wife and told her goodbye, and was dead before any one got to him. He leaves a wife, one son, 22 years old, and a small daughter. They are well provided for financially. He was a graduate from the Jefferson Medical College in 1879; was a member in good standing of the Daviess County Medical Society.

WHITLEY—Dr. J. H. Barker, of Corbin, is spending a few weeks in New Orleans taking post-graduate work.

Dr. B. F. Tye has changed his location from Spruceburg, Whitley county, to Bush Creek, Knox county.

Dr. E. L. Harmon has moved from Jellico Creek to Spruceburg.

Dr. J. F. Bryant, Corbin, is at the bedside

of his uncle, who is very ill in Knoxville.

SCOTT—The Scott County Medical Society met on March 7th, at Georgetown. The chief topic was "Tuberculosis," to which the public had been invited. There was a good attendance of both doctors and laymen. Dr. Albert Frieburg, of Cincinnati, gave a very intellectual talk upon "Bone and Joint Tuberculosis." Dr. A. B. Coons, of Georgetown, read a paper on "Pulmonary Tuberculosis", and Dr. R. W. Porter, on "Incipient Tuberculosis".

FRANKLIN—Dr. Thomas Gardiner was on February 29, appointed by Governor McCreary a member of the Board of Control of the State asylums. The appointment of Dr. Gardiner is a good one, and he is intimately acquainted with this line of work. He served as superintendent of the insane asylum at Hopkinsville, under Gov. Bradley's administration, and was appointed a member of the board of control by Gov. Willson. His home is at Madisonville, Ky.

JEFFERSON—Dr. Ap Morgan Vance, one of Louisville's leading surgeons, who was seized with a hemorrhage of the nose on March 4th, is greatly improved, and it is expected that he will be able to leave the St. Joseph's Infirmary in a few days. For a time apprehension was felt, and a score of physicians were called into attendance.

Dr. Vance was at his home, 835 Fourth street, at the time he was seized with the attack. Efforts to stop the flow of blood were unsuccessful, and he was removed to the infirmary in order that he could receive prompt medical attention.

CASEY—News has been received by her relatives here of the death of Mrs. J. T. Wesley, which occurred at her home at Middleburg, Casey county. Mrs. Wesley was the widow of the late Dr. J. T. Wesley, who for forty years was one of the leading physicians of South-Central Kentucky, and who at the time of his death—some three years ago—was vice president of the Kentucky Medical Association. Mrs. Wesley's death was due to infirmities of old age. She was about seventy-three years of age. Three children, two sons and a daughter, survive. They are Dr. I. S. Wesley, of Liberty, and Mrs. Joe Williams, of Lincoln county. Taylor Wesley, of Highland Park, and Henderson Deabard, of 717 West Broadway, are nephews of Mrs. Wesley. The interment took place at Middleburg.

WHITLEY—The following program has been arranged for the next regular meeting of the Whitley County Medical Society, which will be held at Corbin, April 4th, at 11 a. m.:

Call to Order—President.....S. S. Brown
Address of Welcome...T. J. Ballard, Corbin
Response.....A. T. Slemmons, Jellicoe

SCIENTIFIC SESSION, 11:15 O'CLOCK.

Head Injuries...A. D. Willmoth, Louisville
Discussion....J. D. Adkins, Williamsburg
S. S. Brown, Mt. Ash,
J. F. Wilder, Wilton.

LUNCH 1 O'CLOCK.

SCIENTIFIC SESSION, Continued, 1:30 O'CLOCK

Pellagra.....S. B. Snyder, Jellicoe
Discussion.....L. O. Smith, Williamsburg
P. G. Petrey, Packard
J. S. Lock, Barbourville.

Public Lecture at Opera House, 7:30 P.
M., Subject, "The Problem of Living"

A. D. Willmoth

This program is so arranged on account of train service. We trust that all members and many others will attend this meeting and remain for the lecture.

M. W. STEELE, Secretary.

BOYD—At a meeting of the Boyd County Medical Society, February 20, 1912, the following resolutions were unanimously adopted:

Be it Resolved, That this society in recognition of the splendid service rendered the State of Kentucky by the State Board of Health, and by its able Secretary, Dr. J. N. McCormack, in the prevention of disease, the effective quarantine of infectious diseases, in the dissemination of information concerning public health and hygiene, and in the provision for the benefit of scientific laboratory work free of charge to the people of the State, does hereby unqualifiedly endorse the administration of the State Board of Health, and expresses entire confidence in the Board, both individually and collectively.

Be it further Resolved, That we protest against the enactment into law of House Bill No. 74, which proposes to change the method of selection of members of the State Board of Health. We consider that the present plan, whereby the appointments are made by the Governor from names recommended by the various medical organizations of the State, has resulted in the selection of the best available men, and any plan proposing a change cannot be productive of good. In support of this resolution we point to the enviable record of the Kentucky State Board of Health, and to its high standing and recognized merit both locally and nationally.

C. K. KERCHEVAL, Secretary.

HENDERSON—Governor McCreary will be asked to veto the bill recently passed by the

legislature taking out of the hands of the State Board of Health the power to examine cattle to determine whether they have tuberculosis. A joint meeting was held at the Y. M. C. A., of the county and city board of health, the county medical society and the anti-tuberculosis society to make a protest against the bill.

Strong resolutions setting forth the reasons why the bill should not become a law were adopted. It was decided to request Senator Starling Marshall and Representative Ben. E. Niles to use their influence to get the governor to veto the measure. Mr. Marshall was reached by telephone and agreed to telegraph to the governor and also gave his consent to have his name attached to a petition to be sent to the governor protesting against the bill.

Physicians in the city say that this is the most important question that has come before the anti-tuberculosis society since its organization. Mr. Niles could not be found and it is not known what position he will take. The resolution adopted is as follows:

Whereas, It is a well known fact that tuberculosis, or consumption, in cattle can be conveyed to man either by eating the meat or drinking milk from such cattle and that a large per cent of all cases of pulmonary tuberculosis in man derive their source of infection from the food eaten or the fluid drunk—and that the only way to discover tuberculosis in its early stages, in cattle is by what is known to science as the "Tuberculin Test", properly administered by a competent veterinary surgeon who has properly qualified himself to conduct such tests; and, that

Whereas, Very few counties in the state, except those containing cities of the first, second and third class, have veterinarians who are qualified to administer such tests, and if such tests are not properly made, they had best be not made at all; and,

Whereas, By the provisions of this bill no veterinary surgeon selected by the county authorities, can, or will be permitted to use the test for tuberculosis unless he discovers "physical evidences of tuberculosis in such cattle, in such county"—which is an absurdity upon the face of it for the reason that every properly qualified veterinarian knows that this is an impossibility except in the last stages of the disease. Many cattle which look fat and sleek, showing no physical evidence of disease, are at the same time infected with tuberculosis. In further view of the fact that a very large majority of the people of the state are beef and milk consumers they are by necessity exposed to the danger of acquiring this man-killing disease. Especially is this true of the helpless babies, whose principal and only food is dairy milk. Therefore,

in consideration of these and many other facts, which could be cited, be it

Resolved, By this joint meeting of the above association, that we deplore the passage of senate bill No. 56. Believing that said bill was passed under a misapprehension we vehemently protest against this bill becoming a law and earnestly entreat his excellency, Governor McCreary, to put his veto upon it. The commonwealth of Kentucky has a right, owes a duty and is under an obligation to demand that poisoned meat shall not be fed to defenseless men and women of the state and that her helpless babies be not compelled to drink milk containing the tubercle bacillus.

"Are not two sparrows sold for a farthing?" Fear not therefore; ye are of more value than many sparrows."

Is not the life of ONE CHILD of more value than many tuberculous cows?

W. L. THOMPSON, Mayor.

JAMES E. RANKIN, Chairman.

D. O. HANCOCK, Secretary.

MERCER—The following official statement was issued during the recent epidemic of Cerebro-Spinal Meningitis, in Mercer county, by the State and County authorities and local physicians.

"Cerebro-spinal meningitis or "spotted fever," like consumption, typhoid fever and many others, is a germ disease and therefore is impossible to contract unless the seed of the disease becomes planted in some manner in the individual. The disease is largely distributed by lodgement of these germs in the nose or throat. They may be inhaled with the air or they may be contained, as some claim, in the water.

"It is a disease of damp, cold weather and a "crowd disease." Rooms closed tightly and darkened as usually kept in winter, are excellent places for the diseased germ to breed, and it is found that the larger number of cases develop in such ill-kept, unventilated rooms, and most epidemics occur during the winter, late fall, and early spring months.

"Before the discovery of Flexner's Serum the disease claimed about 75 per cent. of the victims, and terminated speedily in death. Since the serum was discovered and promptly used, the death rate has fallen to about 25 per cent. The earlier the serum is used, the more chance the patient has to get well, and the shorter and milder the course of the disease. The disease is not highly infectious like measles, whooping cough and many other diseases. One or two may be the only ones of a large family to contract the disease.

"In the presence of an epidemic in any community the following directions are advised to be followed in consideration of the

patient, family and the community:

THE PATIENT

If possible, should be removed to an Emergency Hospital. If not, he should be kept in a well ventilated, sun-lit room, carefully guarded, by a trained nurse, from the rest of the household—no one being permitted to enter or leave the room except the physician and nurse who should use the same precautions to prevent the spread of the disease as they would for small-pox, diphtheria, scarlet fever, and other dangerous communicable diseases.

THE FAMILY

Should remain in the house and permit no one to enter or leave the place until declared safe by the Health Officer.

"Should sleep and live in well ventilated, well lighted rooms, blinds removed and ventilation being effected by raising or lowering the windows, care being taken to keep the room comfortable and warm.

"Disinfectant solution, approved by the Health Officer, should be sprinkled on the floors, and raising of dust avoided as much as possible.

"The throat should be frequently gargled with one part of Liq. Antiseptics, U. S. P. to four parts of water, two parts of Peroxide of Hydrogen. The nose should be sprayed with the same solution.

THE COMMUNITY

Should insist that thorough cleaning up of the town be done at once, a day to be set apart on which alleys should be cleaned up, back yards, cellars, privies, cleared of filth and rubbish and disinfected with freshly slacked lime. If the drinking water is not of known purity it should be boiled before use. Living rooms constantly well ventilated and sunned, as these two agents are very destructive to the germs.

"There have been altogether in the community only three cases, none of which lived in the town limits, and these are all cases of Cerebro-spinal Meningitis as has been proven by the report from the Laboratory of the State Board of Health. The family and houses are under strict quarantine. No new cases have developed and it is believed that there need be felt no anxiety that the disease will become scattered. In the meantime children should not be allowed to congregate until recommended by the Board of Health."

W. L. HEIZER,

State Registrar Vital Statistics.

J. TOM PRICE, Chairman.

W. H. WITHERSPOON,

C. B. VANARSDALL,

Board of Health.

J. B. ROBARDS,

W. D. POWELL,

T. O. MEREDITH,

C. P. PRICE.

WARREN—Dr. A. H. Abernathy, of McKenzie, Tennessee, has moved to Bowling Green and was unanimously elected a member of the Warren County Medical Society.

CHRISTIAN—Dr. W. M. Bassett, of Oklahoma, is now located at Pembroke. Dr. Bassett went to Oklahoma just after his graduation, in 1907. We welcome him back home.

Miss Mamie McGuire, the widely popular nurse, underwent a complicated operation for appendicitis in a Nashville infirmary. Last reports she was doing nicely.

WARREN—The Warren County Medical Society met in regular session in the council chamber of the City Hall March 13th, with Dr. T. O. Helm presiding.

Dr. W. S. Weaver made an interesting discussion on "Goitre," after which the question of a public abattoir was discussed.

A committee composed of Dr. F. D. Cartwright, chairman; Dr. F. D. Reardon and Dr. G. E. Huddle were appointed to go before the City Council and suggest the building of a public abattoir, which this committee will do at the regular meeting on Monday evening March 18th.

All the members of the State Board of Health with the exception of Dr. George Fuller, of Mayfield met in session at the State Board of Health's office on Normal Heights. The general routine business was transacted. Honorable Lawrence Fynn, Chairman of the State Railroad Commission is also here, and together with him, the members of the board visited the L. & N. station and made a thorough inspection of the grounds and building, but gave out nothing for publication.

Dr. J. N. McCormack was host to the board at a delightful luncheon served at the noon hour at his home, corner Twelfth and State streets.

THE FORUM

To the Editor:

I was very much interested in Dr. Ellis' article in the February issue of the JOURNAL. This is a subject in which I have been profoundly interested in and especially that part in which he refers to the sterilizing of the criminals and defectives, this is the key to the situation, and will do more to empty our asylums, penitentiaries, and other state institutions than everything else combined.

Except that part where he is in favor of requiring parties to have a certificate of sound bodies and mind before they can get license to get married, this I think is wrong for when you refuse license to marry you license licentiousness. I say let them marry so long as

they can make a living for themselves but don't let them raise a family. There should be no limit to the practice till every criminal and defective on the face of the earth is sterilized.

This put into general practice would revolutionize the world and would do more in one year toward checking degeneracy than all other means combined will do in ten. And the readiness by which people will co-operate is the main feature you will only have to lead them into the true light of the subject. I think Dr. Ellis is right when he says that it is the undesirable who raise the largest families those who are the least capable and able of raise and educate them, and it is not because they want them but to them there is no way out of it, and it will not take much to convince this class that it is not prudent for them to raise a family.

You convince by real example someone who has tried it who they have confidence in, that it does not deprive them of a single pleasure of married life, except the child, and you won't have any trouble in getting their cooperation.

I have been studying this question for fifteen years and have done some research work along this line, and have some living subjects and have had the pleasure of studying the subject down to the present. I will say that I am the first man in the world who advocated the sterilizing by dividing the vas deferens for the limitation of the reproduction of the defective and undesirable human beings.

This is the only way by which we can have absolute control of the reproduction of human beings, which we ought to have, and I think this would be without giving offense to the Creator.

This is a little operation which can be done in the office without any pain and without any danger and does not deprive any one of any pleasure which he would enjoy without it.

This should be speedily brought into practice, and we would soon see our asylums beginning to empty and our criminal courts would have less to do, and the various children's homes would not be so crowded. In fact I think it is the most important and rational subject that the world has discussed in the last several decades.

R. L. FORD.

Cesarean Section and Its Alternatives.—Peterson emphasizes the fact that abdominal Cesarean section is always exceedingly dangerous in the presence of sepsis; that at times it is absolutely unjustifiable, craniotomy on the living or dead child being the preferable procedure.

COUNTY SOCIETY REPORTS

Boyd—The Boyd County Medical Society held its annual business meeting December 11, 1911, and elected officers for 1912 as follows:

President, P. C. Layne; Vice President, W. O. Eaton; Secretary, C. K. Kercheval; Treasurer, H. S. Swope; Delegate, W. O. Eaton; Censor, J. D. Mutters.

Meeting will be held on the first and fourth Monday of each month in Lordier's Hall, Ashland.

C. K. KERCHEVAL, Secretary.

Mason—On February 26 a meeting to reorganize the Mason County Medical Society was held in the G. A. R. Hall at 2 p. m., at this meeting were present Doctors Harover, Brand, Samuels, Cooper, Taylor, Taulbee, Yagel, Quigley and Patton (colored).

The following officers were elected: Woodson H. Taulbee, President; Arvid O. Taylor, Vice President; A. R. Quigley, Secretary-Treasurer; Councilors, J. R. Cooper, W. S. Yagel and J. H. Samuels; Delegate, S. R. Harover; Alternate, Leslie Brand. The Maysville Academy of Medicine was also reorganized and will hold weekly meetings on Wednesdays at eight p. m., the regular County Society meets the first Monday in each month at two p. m.

A. R. QUIGLEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of Dr. John E. Wilson in Butler, with the following members present: Drs. P. N. Blackerby, Caldwell, Clark, Hopkins, Kendall, Nichols, John E. Wilson, Woolery, W. H. Yelton, Geo. F. Henry. The meeting was called to order by President Blackerby, and after reading of the journal and roll call, we entered into business. After the usual reports of new and unfinished business we got down to a report of clinical cases, and we had some very good reports of interesting cases.

T. C. Nichols read a very good paper on "Rheumatic Fever," which was discussed by several members present.

H. C. Clark next read a paper on the subject of "Perineorrhaphy." This paper was also discussed by nearly every member in attendance.

This closed the reports of clinical cases and the reading of papers and the society then adjourned.

W. A. McKENNEY, Secretary.

Campbell-Kenton—The regular monthly meeting of the Campbell-Kenton County Medical Society was called to order on January 18, 1912, by R. Lee Bird, in the absence of the President, J. G. Furnish.

The minutes of the previous meeting were read and approved. The application of Dr. Nellie

Danks was received and referred to the Board of Censors.

The Chair appointed the following Committee: W. W. Anderson, R. M. Rankin and J. G. Furnish to draft resolutions of protest against the repeal of the Vital Statistics Law, the mode of appointing the State Board of Health and the Optometry Bill.

The paper of the evening: "Acute Otitis Media, Cause, Complications and Treatment," was read by Wm. J. Thomassen, and discussed by Drs. Bledsoe and Behrman.

Members present, twenty-five.

The society adjourned to meet February 16, 1912.

R. M. RANKIN, Secretary.

Tri-County Medical Society—(Logan-Simpson—Warren).

To be held in Bowling Green, Tuesday, April 9th, 1912.

PROGRAM.

The Necessity for an Exact Diagnosis in Cardiac Lesions Finis London, Woodburnville.

To open discussion, J. R. Crittenden, Gordonville. Important Etiologic Factors in Gastro-Intestinal Diseases of Children

C. L. Venable, Franklin.

To open discussion, F. E. McCann, Gold City. The Practical Clinical Aspects of Anaphylaxis

N. C. Witt, Franklin

To open discussion, F. D. Reardon, Bowling Green.

Dietetic Treatment of Typhoid Fever,.....

D. G. Simmons, Adairville

To open discussion, J. C. Douglas, Franklin.

Recent Advances in the Physiology of Digestion L. B. Wilkerson, Russellville.

To open discussion, L. H. South, Bowling Green.

The Diagnosis and Treatment of Placenta

Previa T. W. Stone, Bowling Green

To open discussion, J. K. W. Piper, Russellville.

Christian—The regular monthly meeting of Christian County Medical Society was held in the City Court room, Hopkinsville, Tuesday, January 16th. J. L. Barker in the chair, and the following members present: J. L. Barker, W. A. Lackey, Austin Bell, F. M. Stiles, G. W. Lovin, J. Paul Keith, S. H. Williams, L. A. Tate, F. M. Brown, H. W. Watts, J. H. Price, O. L. Barnes, and W. S. Sandbach.

The minutes of the last meeting were read and adopted.

F. H. Bassett's application was voted upon and unanimously received. J. L. Barker presented the application of W. H. Watts, which was referred to the Board of Censors till the next meeting.

The president called for report of cases: Drs. Lackey and Bell reported a case of iodine poison with recovery. Dr. Sandbach reported a case of typhoid complicated with abortion, now in the

sixth week. All the members present took part in the discussion.

L. A. Tate read a very interesting paper on "A General Practitioner's Laboratory." The essayist emphasized the importance of the laboratory, it being much easier to make a correct diagnosis. It was discussed by Drs. Keith, Bell and Stites. Motion was made and carried to send it to the JOURNAL for publication.

The Committee reported the annual program which was read by the Secretary, who will have it printed and placed on the desk of every physician in the county.

No further business the meeting was adjourned to meet the third Tuesday in February.

W. S. SANDBACH, Secretary.

Ohio—The Ohio County Medical Society met in the office of Dr. S. D. Taylor, Beaver Dam, Wednesday, March 6th, at 1:30 p. m. Members present: Drs. S. D. Taylor, J. N. Taylor, J. O. McKinney, E. W. Ford and Oscar Allen. Bad weather having prevented our meeting in December and January, the first thing in order was the election of officers for this year. The following were elected: J. N. Taylor, President; S. D. Taylor, Vice President; Oscar Allen, Secretary-Treasurer; E. W. Ford and J. O. McKinney, Censors for one and two years respectively. Applications for membership were read and referred to the board of censors from F. B. DeWitt, Rockport; E. B. Pendleton, Hartford, and Willard Lake, Simmons. Motion made and carried that we meet again at Beaver Dam, April 4th, 1912, at 1:30 p. m.

S. D. Taylor reported a case of "Atresia of Vagina," in which he recommended a complete hysterectomy. We hope to have a report from this case next meeting.

E. W. Ford read an excellent paper on "Treatment of Tuberculosis" which was discussed by Drs. J. O. McKinney, S. D. Taylor and F. B. DeWitt.

Papers for next meeting: "Early Diagnosis of Tuberculosis," J. O. McKinney, Taylor Mines. "Vaccine and Serum Therapy," S. D. Taylor, Beaver Dam.

Adjourned to meet April 3rd.

OSCAR ALLEN, Secretary.

Christian—The Christian County Medical Society has arranged the following program for the entire year:

January 16—W. A. Haynes, "Pneumonia;" L. A. Tate, "General Practitioner's Laboratory;" J. B. Jackson, (Quiz) "What is the best medical treatment for Tuberculosis?"

February 20—M. E. Croft, "La Grippe;" C. B. Woosley, "Prostatic Hypertrophy;" Austin Bell, (Quiz), "Pneumonia."

March 19—W. W. Durham, "Symptoms and Diagnosis of Diphtheria;" F. M. Brown, "Treatment of Diphtheria and its Complications;" J.

W. Harned, (Quiz), "Prostatic Hypertrophy."

April 16—E. L. Gates, "Scarlet Fever;" J. H. Rice, "Gonorrhea;" D. H. Erskelston, (Quiz), "Typhoid Fever."

May 21—G. W. Lacy, "Management of Normal Labor;" N. C. McGraw, "Management of the Complications of Labor;" J. E. Stone, (Quiz), "Obstetrics."

June 18—T. W. Perkins, "Surgery at the Home;" F. M. Stites, "Summer Diarrhoea and Infant Feeding;" B. A. Caudle, (Quiz), "Summer Diarrhoea and Infant Feeding."

July 16—G. W. Loran, "Appendicitis;" F. P. Thomas, "Cause and Treatment of Spasms in Children;" F. H. Bassett, (Quiz), "Gonorrhea in Male and Female."

August 20—J. E. Johnson, "Smallpox;" H. C. Beazley, "Tonsillotomy;" W. A. Lackey, (Quiz), "Syphilis."

September 17—J. F. Stone, "The Menopause;" J. Paul Keith, "Management of Valvular Heart Disease;" O. E. Wright, (Quiz) "Dysmenorrhea."

October 15—O. L. Barnes, "Acute Articular Rheumatism;" A. H. Edwards, "Superficial Diseases of the Eye;" J. R. Paine, (Quiz), *Materia Medica*."

November 19—R. F. McDaniel, "Otitis Media;" J. A. Southall, "Fractures;" S. H. Williams, (Quiz), "Business Side of the Practice of Medicine."

December 17—Election of Officers for 1913.

J. L. BARKER,
W. A. LACKEY,
W. S. SANDBACH,

Committee.

Fleming—The Fleming County Medical Society met in Flemingsburg, February 21, 1912, with C. W. Aitken, President, in the chair. Members present: Drs. Brice, Robertson, Garr, Vice, O'Bannon and Bailey, (colored). The minutes of the previous meeting were read and approved.

E. R. Bailey was made a member of our society.

E. T. Buntins' application for membership was read and referred to the Board of Censors.

It was moved and seconded that the vote to change the time of meeting from once a month to once in two months be postponed indefinitely. Carried.

T. B. Vice reported a case of an undeveloped enlargement of the metacarpophalangeal articulation of index finger.

C. R. Garr reported a case of "Adeno Fibroma of the Breast," patient a girl 15 years of age. In operating not a blood vessel had to be tied. The tumor weighed fifty pounds. She made an uneventful recovery. He also reported a case of fatty tumor, operation and recovery. The presentation of these cases brought forth an interesting discussion, all the members taking part, which made one another feel it was pleasant to be here.

It was suggested that the subjects to be discuss-

ed by the society he placed in the hands of the Secretary one week before the time for our next meeting, by so doing it will enable the secretary to notify all members that they may come prepared to bring out all the points bearing on the subjects.

J. B. O'BANNON, Secretary.

Franklin—The Franklin County Medical Society met in the office of Drs. Williams and Mastin, March 4, 1912. Present, President Mastin, Dawson, Garrett, Kellar, Heilman, Williams and Minnish.

Minutes of the previous meeting were read and approved.

Balloting on applications for membership of Drs. E. E. Ronle and A. Stewart, resulting in their election to membership.

H. S. Kellar reported a case of "Typhoid Pneumonia."

W. F. Minnish reported an interesting case of "Typhoid Fever."

W. B. Dawson reported a case of "Infantile Paralysis."

All were discussed exhaustively.

U. V. Williams then said he had heard of "Foetus in Utero," having been often shot with a curette, but of only one as having been shot in utero with a 44 calibre Colt revolver and called upon Dr. Heilman to verify case which occurred in his practice—who said four week ago an Italian woman in a Dago camp of workmen on construction work building a turnpike near Frankfort, who was at full term pregnancy, and was a medium sized woman with a very largely distended abdomen. He was called to attend a case of labor, when he arrived he found the woman in pain with hemorrhage but was evidently not in labor. None in the camp could speak English, not even United States, except a small lad twelve years old, who said she knocked the pistol off the table herself, not knowing she had been shot, but the boy said the "gun went off."

On examination the doctor found a wound of entrance of the ball immediately above the symphysis pubis and lodged beneath the skin at the ossiform cartilage. Patient was removed to hospital and eight hours afterwards a laparotomy was performed and a hysterectomy uterus and adnexa removed. The ball had passed entirely through the uterus and placenta in its longest diameter of the mesentery and wounding the bowel but not penetrating the intestine, passing in and through the right shoulder and through the elbow of the foetus and abdomen and breaking the left hip and pelvis bone. All efforts failed to resuscitate the child and the verdict was death by accidental gunshot wound.

The woman made a very happy and uneventful recovery and in four weeks was able to resume her duties as cook in a shanty of Dago workmen.

U. V. WILLIAMS, Secretary.

Campbell-Kenton—The monthly meeting of the Campbell-Kenton County Medical Society was called to order by the President, J. G. Furnish, on the evening of February 16, 1912.

The minutes of the previous meeting were read and approved.

R. M. Rankin reported a case of "Displaced Heart."

The Board of Censors reported favorably on the applications of Dr. Nellie Dunks and Dr. Spillman, and both were unanimously elected to membership.

The Committee on Legislation presented the following resolutions:

"Whereas, one of the most important duties of a State is the conservation of the health and vigor of its citizens, and

"Whereas, the efficiency of this service is endangered by certain proposed legislation now pending,

"Therefore, be it resolved; by the Campbell-Kenton County Medical Society, that we earnestly protest against the passage of the Optometry Bill as legalizing the practice of medicine by those not properly qualified, commercializing the care of the afflicted, and risking the vision of our people, in the hands of those, who have no means of knowing the far-reaching significance of many eye defects.

"That we likewise protest against the proposed repeal of the Vital Statistics Law as a backward step from the stand of enlightened advancement taken two years ago, and before the marked benefits of that advance have had full time to become manifest.

"That we also protest against the proposed change of methods of selecting members of the State Board of Health as subversive of public interest and tending to partisan political service, rather than efficiency for the public welfare; and hereby express our belief that the animus of this proposed change is personal and political, rather than for the good of the service.

"Therefore, be it resolved; that a copy of these resolutions be sent to each Senator and Representative of Campbell and Kenton Counties, requesting them to vote against said bills, and use their best efforts to defeat same."

W. W. ANDERSON,

R. M. RANKIN,

J. G. FURNISH,

Committee.

E. A. North read a paper on "Relation of Infant Feeding to the Future of the Race."

W. W. Anderson, J. A. Davis, Pythian, J. D. Davis, Struble, Fishback, Walters, Rankin, Wilson, Bauar, Caldwell, Furnish, Ryan and Stine, took part in the discussion.

Adjourned to meet March 21, 1912.

JAMES A. RYAN, Secretary.

Carlisle—The Carlisle County Medical Society met in regular session at Arlington on

March 5th, 1912, in Dr. Hoeker's office, President T. J. Marshall, presiding.

On account of bad roads and weather, the attendance was small.

Those present were, Drs. T. J. Marshall, G. W. Payne, W. L. Mosby, R. T. Hoeker, W. Z. Jackson and J. F. Dunn.

R. T. Hoeker lead in a short prayer, after which the minutes of the previous meeting were read and adopted.

The Committee on Arrangements reported and was discharged.

W. L. Mosby, Payne and Dunn were appointed to examine a patient of J. F. Dunn's.

The program of the day was next taken up.

W. L. Mosby read a paper on "Cerebro-Spinal Meningitis." He gave the etiology, symptomatology and pathology in a clear and distinct manner. He gave the statistics of 49 counties of Texas in which there were 550 cases with 210 deaths. He recommended opium and bromides for rest; hot baths with ice bag to head. Thinks serum best of all.

G. W. Payne opened the discussion. He said he believed the serum treatment ideal but not practical with the country doctors.

T. J. Marshall insists if the scourge reaches us, that we quarantine and use lumbar puncture.

J. F. Dunn uses opium persistently although authorities state that it is contraindicated.

W. Z. Jackson reported a bad case in a child in which he was giving 4 drops of tr. gelsemium and one teaspoonful of a bromide solution, and the nurse through a mistake gave a teaspoonful of the gelsemium and 4 drops of the bromide. He never noticed any untoward effect from the large dose but the child at once began to improve and made a complete recovery. The result was that Dr. Jackson immediately ordered an abundant supply of gelsemium.

R. T. Hoeker also took part in the discussion which was closed by the writer.

J. F. Dunn read a paper entitled "Iritis as Seen and Treated by the General Practitioner." Most all present took part in the discussion, which was closed by J. F. Dunn.

R. T. Hoeker, last but not least, read a paper on "How Do and How Should We Treat our Fellow Practitioners?" It was one of the most beautiful papers ever read before our society. If every one would follow his instructions all the malice, strife and hatred that today exists in the medical profession would be wiped from the face of the earth, and our profession would be a little heaven on earth, but, we of little faith are afraid this can never be.

By motion our meeting will be held quarterly as formerly.

Our society adjourned to meet again in June.

J. F. DUNN, Secretary.

Bell—The Bell County Medical Society met at Pineville, March 8th, at the office of Dr. Edward Wilson.

The following members were present: Drs. Brosheer, Foley, Coombs, Hopkins, Wilson, Gibson, Bingham, Morehead, Flannigan, Hason, Hendren, Schultz, and Nuckols. Dr. J. S. Locke, of Barbourville, was also present as a visiting member.

The minutes of the previous meeting were read and approved. The committee appointed on county and municipal practice, presented the following schedule of fees to regulate such work:

"In regular medical cases, where the physician is ordered by the proper authority to take charge of a case, his fee shall be at the rate of two (\$2.00) dollars per visit within the radius of one mile, and one (\$1.00) dollar for each additional mile.

"In epidemic diseases, such as smallpox, his fees shall be at the same rate, for a single patient, and one (\$1.00) dollar additional for each additional patient at the same house.

"After all contagious diseases, where fumigation is necessary, an additional charge of five (\$5.00) dollars shall be made for fumigating.

"All surgical work shall be charged for at the usual prices prevailing in the same locality, for the same class of work. Or better still by special agreement.

"In ordinary obstetric cases, where the physician is not detained longer than four hours, the charge shall be ten (\$10.00) dollars.

"In difficult and instrumental deliveries, or where the physician is detained longer than four hours, the charge shall be twenty (\$20.00) dollars."

A resolution was passed directing the secretary to write Congressman A. O. Stanley in regard to the Public Health Committee.

W. G. D. Flannigan presented an interesting clinical case.

Jacob Schultz read a very timely and interesting paper on the "Use of Salvarsan in the Treatment of Syphilis." His paper was discussed by several members of the society, and a closing by Dr. Schultz.

J. S. Locke was called on to give the progress of the "Hookwork" investigation and a committee was asked for to confer with the fiscal court in regard to giving some aid in defraying the expenses of treatment for the poor. Drs. Bingham, Foley and Wilson were appointed as the committee.

There being no further business before the meeting the society adjourned to meet at Midleboro in April.

O. P. NUCKOLS, Secretary.

JEFFERSON COUNTY NUMBER

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BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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ORIGINAL ARTICLES

SOME RECENT ADVANCES IN MEDICINE.

(AN ADDRESS.)

By J. B. MARVIN, Louisville.

Allow me, at the outset, to disarm criticism by stating that I do not intend to give you anything original, but to simply give you a few points, boiled down, in connection with recent advances that have interested me most as an internist.

PELLAGRA.

This is a disease that is increasing in different sections of the country and at a rate that demands serious consideration. It has been reported in more than thirty States; its area is extending, and it is a menace to a large number of people. There are at present more than 2500 cases of pellagra in the South alone. It is probably the most important public health problem of the present day, and calls for urgent and early solution. A report of every case should be required by law. It is now reportable in only four States and required by law in only one. No appreciable advance has been made in our knowledge of its etiology or prevention. The maize theory has been attracting less and less attention. Recently, some one—without justification, I think—has suggested cottonseed oil as a possible etiological factor. Sanborn's hypothesis, that it is due to the Buffalo gnat, or other species of fly, and Alessandrini's theory that it is water-borne, probably by the trematode

Filaria of sprue, etc., have not received confirmation.

However, we have learned a few facts about pellagra. In the United States it seems to be more a disease of the country than of the city, and appears to be confined to certain regions. It occurs more frequently in the female sex. All the cases that I have seen, outside of institutions, have been in women, and, furthermore, in women of the better class.

As in all diseases that have attracted widespread attention, we have perhaps, in many instances, erred in being too quick to make a diagnosis of pellagra, but I can now readily recognize a number of cases of this condition which I failed to diagnose at the time. The diagnosis in a well marked case is generally easy. Bear in mind, however, that the course of the disease is marked by periods of improvement followed by recurrences at certain seasons of the year. It is essentially chronic. I commend to you a simple rule of "three d's" (to which my personal experience has led me to add a fourth;) namely, digestive disturbance, dermatitis, delirium, and death.

Various forms of treatment have been suggested. Recently it has been claimed that salvarsan has a good effect. I have tried soamin and other arsenic preparations, urotropin and quinin. The dermatitis seems to be the most easily controlled feature of the disease.

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I pass over cereb-ro-spinal meningitis and anterior polio-myelitis except for a word or two. It seems fairly certain that dust plays an important part in the transmission of the latter disease. It is certainly both infectious and contagious and every case should be quar-

antined for at least three weeks, and should be treated promptly from the beginning.

Another point is the impermeability of the membrane to medicine administered by the mouth, hypodermically, or intravenously. If we are going to treat a disease that involves the meninges, brain or cord, the medication must be given subdurally or we will get no effect from it.

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Next, renal troubles. Just two points. I have for many years been immensely interested in the question of so-called psychical or physiological albuminuria. In the past I have watched a small series of cases over periods of from ten to fifteen years, and I have concluded that this physiological, functional, psychical or adolescent albuminuria is not of very great importance pathologically. It is found under varying conditions and it is not constant. We may find it only upon arising in the morning, after a cold bath, after meals, or after violent exercise. It may be due to a lack of coagulability of the blood, or to some changes in the albumin of the serum, or the acidity, which influences coagulability. It may disappear after one or two doses of calcium lactate and then reappear.

A distinction should be made between physiological and pathological albuminuria. These cases are very troublesome in connection with life insurance examinations. It is a grievous blunder to reject an applicant with this form of albuminuria, in the absence of casts and other evidences of renal degeneration. But here let me emphasize the fact that casts, if hyaline, may be of very little significance. If we find either granular or epithelial casts, then, of course, the case belongs in the domain of pathological albuminuria. The absence of casts, however, does not exclude nephritis, as they are not always present in this condition. Therefore, repeated examinations of the urine should be made and no hasty conclusions drawn, or we may unjustly deprive a man of the benefits of life insurance.

There is a new test for renal function which, in my opinion is the best that has been brought forth. It is known as the phenolsulphonophthalein test. You are all, perhaps, familiar with the old indigo-carmin test that was in use several years ago. The test I speak of was devised by Geraghty and Rountree. A number of observers have been working with it and it seems to be of great value. The technic is easy. A small quantity of the phenolsulphonophthalein solution is injected into the lumbar or gluteal muscle and the urine immediately secured. If the kidneys are sound the fluid is quickly eliminated, and from 40 to 60 per cent. is obtained in the first hour, and a larger quantity in

the second hour. They have modified Hellige's colorimeter for measuring the quantity eliminated. This test, it seems to me, is of great value in surgical procedures involving the kidneys. It has also been shown that in chronic interstitial nephritis (which is one of the most fatal and most frequently overlooked forms of renal trouble), this test gives the best results. It sometimes does not give good results in chronic parenchymatous nephritis. It is also valuable in making a prognosis.

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The next question that has interested me a great deal is with respect to rheumatism, arthritis and gout. If there is any class of disease in which knowledge has increased and wisdom has lagged, it is in this class. There has been a great deal of misuse of the word rheumatism. All authorities now agree that rheumatism should be called rheumatic fever, and should be regarded as an acute infectious disease, a growth or multiplication of certain kinds of streptococci, or other organisms of that kind. One point that I wish to emphasize is that we often confound this condition with arthritis which is not of the same character. I rule out of my pathology so-called chronic rheumatism and limit the term to the acute process. What a grievous mistake we have made in accepting the diagnosis of rheumatism as given so frequently by patients.

Another mistake we have made has been in not regarding it as an infectious condition, and believing it to be due to an acid condition of the blood. I know of no process, save perhaps, acute malaria, in which there is more rapid destruction of the blood cells than in rheumatism. Food here is necessary. Give these patients all the food they can properly digest and assimilate; otherwise we will do them harm. The next thing is to increase the dose of salicylic compounds, and combine it always with an alkali.

Chronic infections of the joints, hypertrophic and hypotrophic, we know less about. Some of these cases of so-called rheumatoid arthritis have no relation to either rheumatism or gout. Some infection may be the cause here; some belong under the head of tuberculous, and syphilitic; others under the head of nervous or trophic conditions. In these cases we want food, iron and arsenic, and, if there are contractions and adhesions, fibrolysin, then, hot-air, baths, etc.

Next, gout. I can count on my hand the number of cases of gout I have seen that fitted the description given in the English books, but I have had a number of cases of so-called American gout, and under this head should be included a great many conditions sometimes called rheumatism. Gout we know more about.

More articles have appeared on this subject in the German and English journals in 1911, than on any other except possibly salvarsan. We know that gout does depend upon an excess of uric acid in the body, in combination with soda-forming deposits about the cartilages, and so on. We know, further, that an excess of sodium in the tissues predisposes to the deposit of urate of sodium in the tissues. It must be that some idiosyncrasy determines this deposit; eating, drinking, and riotous living may do it. However, many persons lead God-fearing lives and still suffer from gout.

We make a grievous blunder when we attempt to treat gouty conditions with sodium salts; we simply add to the condition that already exists. If we are going to give any alkali, it should be potash lime salts, although muriatic acid would be far more logical and sensible than alkalies in gout.

The beneficial effects of certain waters are now recognized to be dependent upon radium, and the Germans are now using radium in water as the proper treatment for arthritis as well as gout in all its forms. They have a method of measuring the quantity given.

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Next, tuberculosis, typhoid fever, and syphilis. There are three things that I wish to call attention to in connection with typhoid fever. First, the necessity of making earlier diagnosis and our culpability in not making early blood cultures. There are at least thirty-five thousand deaths from typhoid fever in the United States each year, and from forty to fifty thousand more are incapacitated, entailing a loss of about one hundred and fifty millions of dollars. We know all about its cause; we know how it is propagated, and we know that the normal habitat of this bacillus is in the human body. If we could just get the people to realize that the greatest danger is from human filth, and teach them to keep human filth out of human mouths, it would go a long ways toward eradicating this disease. The blood culture should be made. It is the consensus of opinion now, among the best hospital internists and laboratory men, that, with the modification of the bile culture media, diagnosis of typhoid fever in ninety per cent. of cases can be made inside of thirty hours. Every one of us must acknowledge that we have fallen far short of what we should have done in the way of making early diagnosis of typhoid fever. We hedge and halt, and wait for the second week with the typical spots. This test has been made a few times here, and we will be woefully behind if it is not made more often. It can be made by any competent bacteriologist. The Widal test, as a group test is of ever-

increasing value, but for individual cases I believe it is of diminishing value.

Next, typhoid fever carriers. There are two groups of these. One is simply a contact carrier, who may not have had the disease at all. He is not so dangerous. Another is one who has had the disease and still gives forth the organism from his body, either through the urine, from a suppurating joint, or by the feces. These carriers are accountable for many cases of typhoid fever that are otherwise inexplicable. Therefore, we have not done our duty by our typhoid fever patients if we do not have the urine and feces examined for the bacilli before we dismiss them as cured.

The treatment of these typhoid carriers is not satisfactory. We all use urotropin, which does a great deal of good, but in many cases it does not eradicate the bacilli nor does any other internal agent. The only report of any good derived from treatment that I have seen so far was from vaccine, and then only in a few cases.

The next point is in regard to immunizing doses of typhoid vaccine. We cannot put this aside any longer. Experiments in this country, in England and in Germany have put it beyond the domain of experimentation, and it is now an established fact. Some sixty thousand persons in the army of the United States have been immunized during the past three years. Of this number only twelve cases have been reported in which typhoid developed, with no deaths. Three injections are usually given, at intervals of ten days, the first containing five hundred millions of bacteria, the second one billion, and the third one billion. Typhoid immunization is now compulsory in all men enlisting in the United States army. How long the immunity lasts is a question. Some authorities claim that it continues for two to two and one-half years. Neither do we know how long the immunity conveyed by vaccination against small-pox lasts. Therefore, it may be well to repeat the immunizing dose.

Vaccine as a treatment of typhoid fever is not so well established. The number of cases that have been treated is small, but it looks promising.

Another point about typhoid fever is one of which I have frequently spoken, but I cannot forbear mentioning it again, that is, underfeeding. We have had impressed upon us so firmly the necessity for starving these patients that, although we now know a great deal more about foods and about the whole digestive process than we formerly did, it is hard to get away from the old superstition about feeding in typhoid. If you have kept up with recent works on digestion, you know that the carbohydrates play a very important part. Not only do we use them for their

high caloric power, but for far more than that. There is great waste in typhoid fever and, as the patient's digestive process is pretty good, this waste is largely due to mistreatment. Kendall has proven, beyond the peradventure of a doubt, that most bacteria, in the presence of carbohydrates, utilize them in preference to proteins. Bacterial toxins are associated with the breaking-down of proteins, and that is what makes the patient waste. Carbohydrates prevent, or check this process. Fermentation takes precedence over putrefaction. If you prevent putrefaction inside of a man you are doing him a service. Milk sugar is the natural carbohydrate in all milk sucking animals, and milk sugar is broken down in the intestinal wall just where the lesion is found. So, everything indicates that in typhoid fever, and all similar processes, such as dysentery, etc., lactose, or some similar compound, would be the ideal thing. Lactose does something more than this. It is a good diuretic without hurting the kidney; it protects the body nitrogen and the proteids of the food. It does not break down easily, prevents decomposition and is easily assimilated. I have been feeling my way along and increasing the dietary in typhoid for fifteen years. The juices of fruit I never withhold; home-made jellies that do not have seeds; milk, cream, lactose, softboiled eggs, soft toast and butter, stale bread and butter without any crust; beef, lamb and chicken broths, with rice, (which I prefer to other cereals), oatmeal or other cereals, gruels, custard, and ice-cream. I have sometimes had cause to regret not having fed a patient, but I have never had occasion to regret feeding. Instinct is sometimes a better guide than reason. What looks good to a patient, smells good, and makes him smack his mouth, will be better digested. These are three senses that can hardly lead you astray. One of the most important discoveries of Pawlow was that seeing things excited the flow of gastric juices. So, I let the patient chew—let him make his own beef juice. I will never forget the statement made to me by one patient, who said, "Doctor, I am tired of nonnishment; I want something to eat."

TUBERCULOSIS.

First, in regard to the test for the tubercle bacillus. I have seen a number of failures in the last year and I have myself had trouble by not applying the test properly. You want a good solution and a fresh solution, and when you make it do not be in too big a hurry. The tubercle bacillus is acid fast, alkali fast and alcohol fast. Next, the use of antiformin solution, a solution of caustic soda and hypochlorite of soda. Treat the sputum with this and allow it to settle, or centrifuge it, and in

many cases you will find the bacillus when it would be otherwise overlooked.

It is sometimes a delicate thing to make a statement for fear that it will be misunderstood. While I will readily admit that I see more cases of tuberculosis that have not been properly diagnosed, coming in as malaria, or liver trouble, or something else, than of other conditions which have been improperly diagnosed as tuberculosis, still I believe the tendency, in some quarters, is to make the diagnosis too early. I look upon tuberculosis as a very serious disease. It has become almost a fad to make early diagnosis, and I think we are creating, on the part of the public as well as among the profession, a phthisiophobia, and I am afraid there is going to be such a reaction as there was about appendectomy, after which it required a good deal of persuasion to get a man to consent to an operation for appendicitis.

Recent investigations on the blood and its role in bacterial diseases have completely changed our ideas on the diagnosis and treatment of pulmonary tuberculosis. Pulmonary tuberculosis, like all other bacterial diseases, manifests itself in two ways; (a) by physical signs due to local pathological changes in the lungs; (b) changes in the general health of the patient, due to absorption into the systemic circulation of bacterial products, produced at the primary focus. The latter is often of greater importance to the patient. A few crepitations matter little, provided constitutional disturbances are not pronounced. In other constitutional diseases, as diphtheria, typhoid, etc., we do not attach as much importance to the local manifestations as we do in tuberculosis. With the stethoscope we are liable to make numerous blunders. I cannot divest myself of the well-founded idea that we must take the man as a whole; that simply an adventitious sound, without other things considered in connection with it, is very often misleading. Tuberculosis, which is an acute infectious process, gives rise to certain well marked phenomena, and we should examine the patient for more than one thing. Would you undertake to say, from the amount of deposit on the throat, whether a case of diphtheria was going to die or get well? It is not a question of the local manifestations, but how much toxin has the patient absorbed, how much resistance will he put up; in other words, how is his general condition?

The most thought-producing and, to my mind, the most original contribution that has been made to this subject in the past year, is by Marcus Peterson, of the Brompton Hospital Sanatorium, who has published a book entitled "Autoinoculation in Tuberculosis." He emphasizes this fact; that it is the question of balance of the system that is of su-

preme importance in all bacterial diseases; that is, the ratio between the virulence of the invading organism and the specific resisting powers in the body against that particular organism. The work is original with him in many ways. He divides his cases into two classes; those with fever and those without fever. Those with fever (in the male about 99 degrees F. and in the female, 99 1-2) he "immobilizes," as he calls it; puts them to bed, has them fed, and does not allow them to do a thing, stopping the cough, stopping physical examinations and hammering on the chest, and even deep breathing, and all those things that we have used to bring out the signs. After the temperature has subsided, he begins the process of autoinoculation, with a combination of rest and exercise. We have had, seriatim, fresh air, feeding and rest; now it is fresh air, rest and food combined. Some time back it was a bottle of whiskey, cod-liver oil, and "Go West." I do not believe that fresh air is the Alpha and Omega of the treatment of tuberculosis, and I think that food sometimes does an immense amount of harm. I have seen patients who were fed until they were soft and flabby, but upon the slightest exertion they would drop down. Increased weight may not be an evidence of arrest of the disease, or even of benefit. We puff up his belly and puff up his face, and as soon as he gets out and tries to do any work at all, he loses his weight and goes back. By a milk and egg diet over-feeding the patient we are apt to do more harm than good.

Dr. Peterson tries to make the patient inoculate himself. He claims that the bacteria in the body generate a certain amount of toxin that will produce certain well-marked phenomena, and this is the process to which he applies the term autoinoculation. There comes a time when the patient gets better, and then, after another autoinoculation, he starts the patient on a series of exercises. He requires the patient to walk half a mile and then rest, and the effect upon the pulse, respiration and temperature is noted. The next stage is half a mile longer, and so on up to six miles. Whenever it causes too much reaction on the part of the patient, he puts him to bed. Next, after this series of exercises has been carried out, he puts the patient to carrying something. His idea is that if these patients are put at rest and do nothing, they get gloomy and despondent. We all like to feel that we are doing something. Therefore, he starts them with a bucket, holding six or eight pounds, and tells them to fill this bucket with gravel or sand and dump it on a certain heap. That is the first exercise. The second is the same, except that they are given a bucket holding twice as much. Next, the patient is given a small spade and told to pick

up some dirt and carry it from one place to another; then they are given a larger spade, and so on. By this means he gets a happy combination of "doing something" and exercise, and he claims that, if he can diminish the temperature and check the sputum, he is doing a great deal of good, and that many of these patients are able to work when they leave the Sanatorium.

CHEMOTHERAPY.

The goal of modern medicine is that (to me) hard-to-pronounce word, "specificity." The present era of progress in medical science is due to the recognition of the fundamental biological principle—specificity. Koch first gave it a definite standing in the declaration that every infectious disease is caused by a definite agent, found only in that specific disease; in other words, the causative organism is specific for that special disease. Von Behring discovered that, in response to invasion by bacteria, or other poisons, the body reacts by the production of substances which are specific for the products of these bacteria. Specificity is not confined to bacteria, but, as we now know, applies with equal force to certain proteins and fatty substances of the higher forms of animal and vegetable life, and may, to a certain degree, exist between the different tissues and fluids of the same individual. We know that the toxin of tetanus is fixed by nervous tissue, and this teaches us that there exist certain relations between cells and poisons as well as between blood serums and poisons.

The physician has two ways of preventing harm from these injurious agents; (1) reduce or remove the specific affinity of the cell for the toxic substance; or (2) render the noxa incapable of combining with the cell. The latter method has received the most attention, and under this head we have our valuable, though small number of, anti-serums and parasite drugs.

Ehrlich (to whom we owe most of our knowledge of aniline dyes), long prior to the discovery, while working on aniline dyes, developed the principle of specific chemical agents acting upon specific cells, and from this combination of physiologic chemistry with synthetic chemistry has developed the new branch of medical science, now so much talked about, called chemo-therapy, which is based entirely upon the principle that the chemical affinity of the drug shall be greater for the parasite or its poison than for the cells of the affected person. That is the fundamental basis—to find some chemical agent which will have an affinity for, or a special localized action upon the parasite or its poison, and at the same time not destroy the cell in which the poison may happen to be residing.

Ehrlich has proven that certain chemical substances have an affinity for, or are specifically attracted by, certain parasites, and these substances he styles parasitotropic. However, certain of these substances are capable of producing a deleterious effect upon the cell itself, and these he calls organotropic. Therefore, the problem was to strike a balance; in other words, to so change the chemical combination that its parasitotropic function would be greater than its organotropic function. "606" (which has set the world to talking more than anything else for a long time) was so styled because it was the result of the 606th experiment along this line.

An important point to remember, however, is that the experiments made by Ehrlich with these aniline dyes, modifying or changing their chemical combinations so as to develop their parasitotropic rather than their organotropic powers, were upon animals, and not upon human beings, and a certain condition in animals does not necessarily correspond to the same condition in human beings.

In this connection, Ehrlich has enunciated a dogma, which is one of the boldest in modern medicine, to the effect that we must find, if possible, some chemical agent of such potency that it will destroy at one dose, all the poison and entirely sterilize the body. "*Therapia sterilisans magna*" was Ehrlich's statement; find some chemical agent that will at one dose destroy all the parasites and do no injury to the body. That meant a cure.

Now, it won't hurt us to look back a little. It seems to me that this whole subject is illustrative of the old adage, "The first shall be last," etc. More than sixty years ago, long prior to the study of bacteriology, we knew that there were certain living organisms in the blood, but it has only been in the last ten years that medical scientists have been paying any attention to the animal forms—the protozoa, spirochetes, trypanozomes, etc. Ehrlich was the first to bring the attention of the medical profession to aniline dyes. He proved that methyl blue would stain the living cell, and out of that grew our modern bacteriology. But for the discovery of aniline dyes we would have had no bacteriology; the bacteria could not have been rendered visible by any other means. But, since this discovery, the medical profession has gone almost crazy on the subject of bacteriology. We know now that from the infectious diseases we get our serums and anti-toxins, but these organisms do not belong to the protozoa. The principal members of the protozoa are the malarial parasites, spirochetes and trypanozomes (and there are three or four others now—that of sleeping-sickness, and other animal parasites) and these do not seem to cause any reaction on the part of the body in the way of

developing antibodies, like the bacteria do. On the contrary, they seem to cause more trouble by being there, and weaken rather than exert any protective influence which may be present.

Sometimes instinct is a better guide than reason—sometimes empiricism outruns science. We knew an empirical remedy for malaria long before the malarial plasmodium was scientifically demonstrated. Chemotherapy has been developed more as the result of the discovery and recognition of the protozoa in the cause of disease, rather than bacteriology, and it seems to be coming into its own. The period prior to bacteriology and prior to chemotherapy had developed about the dominance of the cell—its structure and function, and when observers concerned themselves largely with postmortem material, leading away from physiological integrity, medical thought became pessimistic, and then therapeutic nihilism prevailed. Pathology gave us a better understanding than this, and a far more accurate diagnosis, but the study of specificity may add to our ability to cure and control disease.

I think that it is now pretty well accepted that salvarsan has come to stay. In a recent lecture by Ehrlich himself, before a German Society, he took up the various criticisms that have been made and makes the statement that when we consider that in the course of the past year, several hundred thousands of patients have been treated with salvarsan, the number of accidents is so small as to give no occasion for any serious objection.

Just a word in regard to the combination of trioxide and pentoxide of arsenic. In this combination it is trivalent, and the trioxide is unsaturated, and this is much more active than the pentoxide.

In conclusion I want to say a word about Noguchi's modification of the Wasserman test for syphilis. If employed with due care, it is often invaluable and decisive. He has cultivated the trypanozome and can demonstrate it very easily with the aid of dark ground illumination.

Noguchi has modified the Wasserman reaction, which is a difficult and dangerous thing to use unless one is qualified. It is the "man behind the gun." The Wasserman reaction is a good thing in early syphilis, and ought to be used. Noguchi's skin reaction is a very valuable one for later and hereditary syphilis. He has cultivated the disease through twenty-five generations, in rabbits and from the culture that he injects into the arm he gets induration, erythema, and then pustules.

However, no amount of laboratory technique will absolve the physician from the ordinary general precautions in making a diagnosis

Without laboratory aid, failure will often result, but elaborate pathology, unsupported by ordinary observation, is deprived of half its value. We should develop our powers of observation, so that the detective faculty may be of greater value when reinforced by making use of what advantages science can supply.

Just a prediction; I do not venture many of them, but I believe that the future of infectious diseases, so far as we are concerned, is going to resolve itself around three or four points. First, segregation of the infected individual or quarantine, if you choose to call it such, and, under that head, protection of the patient from the bites of disease-carrying insects. Right there, have we not made a mistake in the management of tuberculosis? The greatest problem of any, it seems to me, is the chronic tubercular subject. If you propagate the idea of early diagnosis of incipient cases, you will over-tax your very limited supply of sanatoria for that class of cases. The seeds scatter, and the most dangerous man is the chronic tubercular patient. Provision will have to be made—and in a short time, in my opinion—for admitting this class of cases to the regular hospitals. I believe there is great danger from the cases of chronic tuberculosis that now gain entrance to the general hospitals for some other trouble, surgical or otherwise. Next, I have seen some internes and nurses exhibit the most morbid fear of tuberculosis. The most valuable lesson taught to patients at the sanatoria is how to take care of themselves and how not to infect others.

The next point in regard to the management of infectious diseases would be to aid the body by giving certain sera. We must remember that sera are injected, not for their direct curative properties, but simply to stimulate the body to pour out certain antibodies, which will enable the system to deal with the infection. No man who is infected with any of these diseases gets well unless there is a response on the part of the body, causing protective substances to be thrown out. Next, the injection of certain vaccines, composed of dead or highly attenuated living bacteria, with the same end in view. Next, the use of certain chemotherapeutic agents intravenously to so fortify the body as to kill the parasites, or aid in destroying them.

DISCUSSION.

Carl Weidner, Sr.: I knew it would be a treat to hear Dr. Marvin to-night. He has given us a great many practical suggestions. His remarks in regard to typhoid fever, gout and rheumatism, were especially interesting. While I agree with his statements as to typhoid fever and rheumatism, I think that the diet in gout is

a very important point. It has been proven that in this condition we have a disturbance of the uricolytic ferment. We know that gout causes changes in the tissues about the joints, resulting in deposits of insoluble urates. We also know that certain foods, particularly those rich in nucleins, will produce the forerunners of uric acid. For this reason, I believe that, in gout, a diet rich in cells, such as sweetbread, liver, kidney, etc., must be excluded.

In the last few years, instead of giving alkalis in gout, I have been giving hydrochloric acid. We want to alkalize the tissues, but we do not want to alkalize the blood too much. All authors lay stress upon the beneficial effect upon toxin production which results from improvement of digestion; therefore, I give hydrochloric acid, first recommended by Falkenstein.

I would like to hear something about fibrolysin. I have never used it and I would like for some one who has to tell us something about it. I have several patients with sneaky joints upon whom I would like very much to use fibrolysin if it will dissolve some of these adhesions.

The suggestions made by Dr. Marvin in regard to feeding in typhoid fever are excellent, but I would like to utter a word of caution to some of the younger members. There is common-sense in everything. I am very skittish about feeding typhoid fever patients after they have had considerable hemorrhage. In such cases I withdraw practically all food, giving nothing but the smallest quantities necessary to sustain the body; also, ice and opium. I do not doubt that Dr. Marvin will sanction this treatment under such circumstances. We cannot lay down any hard and fast general rule in regard to feeding. However, as stated by the essayist, I think we have been underfeeding our typhoid fever patients as a rule.

It is hardly possible to properly discuss the subject of tuberculosis to-night, as the subject is such a wide one and the time is short. Dr. Marvin has given us some very excellent practical suggestions along this line, and I agree with practically everything he has said. As to early diagnosis, I believe that we are prone to look for it and fear its presence too much. Dr. Marvin struck the keynote when he said that we should not rely entirely upon the physical findings, but should take the patient's general condition into consideration. Whenever we cannot arrive at a positive conclusion in a suspicious case, we should employ the tuberculin test. I do not think we ought to send a single patient to a tuberculosis sanatorium without first having made positive diagnosis. When, after a careful examination of a patient, I am in doubt as to diagnosis, I put him down as a "suspect" and keep him under observation until I am satisfied as to the nature of the trouble. In a case of that kind, not far advanced, we cannot do any harm by making the tuberculin test. It is in the far advanced

eases that we may do harm by the injudicious use of the test. Therefore, in every case of this sort, if we are unable to find the tubercle bacillus in the sputum, the tuberculin test should be made. I have known—and so have you—of patients sent to tuberculosis sanatoria who had not tuberculosis. This is rather humiliating to the doctor.

One of the most interesting things to me is to note how the medical profession fluctuates, especially in regard to the treatment of tuberculosis. As has been indicated by the essayist, many contrary views are held with respect to exercise. Some advocate complete rest when there is fever, based upon the idea that the poisonous substances are increased by active exercise. On the other hand, some men advocate, even when the patient has fever, making him carry loads and do other kinds of work. One author has stated that where this plan was carried out he obtained just as good results as he did from rest. I do not approve of it myself. Whenever the patient has temperature, I try to reduce it by means of rest as well as by other means.

In regard to salvarsan, I think the time has passed for this agent to be criticised; still it is a new remedy. Ehrlich, in his latest report, cites many cases in which it was used without any bad results. However, every once in a while, in the literature, we see a report of a case in which optic neuritis is supposed to have resulted from the use of salvarsan. This ought to admonish us to be careful in its use.

Dunning S. Wilson: I certainly have enjoyed Dr. Marvin's masterly resume of recent advances along the line of internal medicine. I will pass over the various conditions mentioned by the essayist and confine my remarks to the question of tuberculosis.

First, I should like to emphasize what Dr. Marvin has said in regard to the diagnosis of tuberculosis. I think the more we see of tuberculosis, the more we realize that it is a general medical problem, and that, with a few exceptions, we never see an individual who is suffering from tuberculosis alone. I might mention, in passing, a case which Dr. Lucas and Dr. Abell saw with me a week or two ago, in which, if the diagnosis had been left entirely to Dr. Lucas, it would have been prolapse of the stomach; if it had been entirely left to Dr. Abell, it would have been movable kidney, and doubtless if it had been left entirely to me, it would have been tuberculosis. Microscopic examination of the sputum revealed tubercle bacilli. This case illustrates the fact that it is sometimes necessary to interrogate every organ of the body before we can arrive at a definite conclusion.

The more we see of tuberculosis the more we are impressed by the fact that, in the early stages, it is more commonly overlooked than it is diagnosed. I do not mean to say that a great many mistakes are not made. There is only one

class of men who never make mistakes, and they are the ones who never do anything.

In regard to the treatment recommended by Dr. Patterson as outlined by the essayist, this might be termed simply "Patterson's modification" of the general trend in the treatment of tuberculosis. The treatment now carried out in most sanatoria consists of fresh air, rest and food. In my opinion, if any one of these should take precedence over the others, I should put rest above fresh air and food. I contend that the reason so many tuberculous people live a great many years is because they rest during long periods. In the sanatoria, regular routes for walking are prescribed, and the patients are put in charge of nurses who see to it that these routes are followed. The patient is furnished with a slip of paper upon which is indicated the route he shall take, and a copy of this slip is given to the nurse. These routes are gradually increased in distance.

If there is one thing in Dr. Marvin's paper that stands out above all others, in connection with tuberculosis, it is that with reference to the dissemination of the disease by the chronic tuberculous patient. There was a time in the history of the City of Louisville and the State of Kentucky when it was necessary to establish sanatoria to demonstrate that persons of moderate means could be cured of tuberculosis in the climate of the Ohio Valley. That time, I think, has passed, and the time has arrived when our discussion should be devoted almost entirely to the question of chronic cases of tuberculosis. We rarely see a case of chronic tuberculosis in any family that we do not find from two to four other members of the same family afflicted with the disease. I hope the time is not far distant when the tubercular institutions of this part of the country will be so arranged that they will be able to take care of the chronic cases, and will be equipped with all the paraphernalia necessary to properly conduct a general hospital.

Herbert Bronner: I think Dr. Marvin has given us some very good points upon the subject of the diagnosis of pellagra. I have seen several cases that were at first thought to be pellagra but which, upon closer examination, proved to be a squamous eczema of the hand and forearm, or some form of dermatitis. Most of these cases were absolutely without gastrointestinal and mental symptoms.

Just a few words in regard to "606." I agree with the essayist that salvarsan is unquestionably here to stay, but we are still unable to say positively what is the ultimate effect of the drug upon the patient. I have given it for more than a year, both intramuscularly and intravenously, and I have reached the conclusion that we can not rely upon it alone. In both my private practice and hospital cases, I insist upon the patient's taking mercurial treatment afterwards, a procedure that is always carried out by Neisser. My

reason for doing this is because, after the use of salvarsan alone, I have seen a number of recurrences, both in my own practice and that of others, and an important feature of these recurrences is their severity and peculiar type. Take, for instance, a case in the City Hospital, in which I gave "606" last September. This patient had the initial lesion and the maculo-papular eruption. I gave him salvarsan, intravenously, and after six days the lesions had all healed. I explained to him the necessity for further treatment, which he refused, and in exactly two months he returned, with the most marked lesions I have ever seen. If this patient had received mercurial treatment and suffered a recurrence, it would have been of a mild form, but he had at least fifty deep tertiary lesions. Another case had been given "606" in Nashville, with no further treatment, and when I saw him, three months later, he had destruction of the soft palate. Therefore, when we do have a recurrence after the use of "606" it is of such severity as to make it appear that the spirochaetes had really been stimulated to renewed vigor by the drug. For that reason I never dismiss a patient without giving him the ordinary mercurial treatment in addition to "606."

I also agree with Dr. Marvin in all he has said in regard to vaccine therapy. The more we use it the more we like it.

J. Rowan Morrison: Dr. Marvin has given us a great many things to think about, and he has put them in such a way that I am sure they will be of great advantage to us.

One thing that especially interested me was the essayist's remarks about the different forms of arthritis. We have been too prone to class all these cases of arthritis under the head of rheumatism. As a matter of fact, acute articular rheumatism is not nearly so common as the histories given us by our patients would lead us to believe. It is necessary to make a very careful analysis of these cases in order to determine whether or not the trouble is infectious, or metabolic. From the standpoint of treatment it is very important to determine these points. If the trouble is of infectious origin, the vaccines may do good. If it is of trophic, metabolic, or gouty origin, plenty of food should be given but it should be reduced in purin bodies in the gouty form.

Dr. Marvin's remarks upon the subject of typhoid were extremely interesting. For a long time we have been underfeeding these patients. Dr. Ewing, of New York, has made a number of interesting experiments, showing that in many of these cases the pronounced toxic symptoms are due to the products of metabolism that are thrown off, the same as in eclampsia; in other words, it is the cell destruction that causes the symptoms and not the fight against the typhoid in the blood, and the way to overcome this is by giving these patients a proper amount of food.

In the excellent work done by Phillip Schaffer, he proved that he could keep up the nitrogenous equilibrium by giving carbohydrates. In typhoid fever food should be given for its effect and for its digestibility. Whenever the food begins to produce indigestion, or in cases of hemorrhage, it should be reduced. However, a great many typhoid patients can take care of reasonable quantities of food. It has been proven by many workers in physiological chemistry that 85 per cent. of carbohydrates and 80 per cent. of proteids can be taken up by the gut. Why not give food, if it does not produce indigestion, because it saves a lot of proteid material that in elimination in any other way will cause trouble. One of the most eminent authorities on this subject told me recently that he certainly believed in feeding typhoid patients, but he feared there was a tendency among some men to stuff patients full just to see what they could do with them—just as in tuberculous cases some men make a fad of feeding, until they have these patients with the belly-ache, and biliousness, and almost everything else. Of course, this is wrong. In typhoid food is needed, but it should be just sufficient to keep the equilibrium at rest, plus 25 per cent. to make up for the loss from toxemia and fever.

In regard to tuberculosis, rest is certainly essential in the presence of fever. Rest and fresh air reduces the temperature and stops the cough more quickly than anything else. If you rest and feed your patient, and give him fresh air, then the tubercle bacillus, to a certain extent, becomes inert—crawls into his hole, but if, on the first sunny day, the patient goes gallivanting around and overdoing himself, his fever returns, he has no resistance and he goes to the bottom of the pit again. As has been stated to-night, these patients should be trained to do work, but not to the point of producing high fever. When a little auto-infection is produced, it should be stopped. A moderate amount of exercise will produce a moderate amount of autolysis and a corresponding amount of vaccination, and this process gradually stimulates and increases the patient's resistance.

J. M. Morris: I am always glad to have the opportunity of hearing Dr. Marvin. I have no hesitancy in saying that the essayist attempted to cover too much ground in one paper. It was impossible to carry them all from beginning to end, because he dealt with too many different phases of medicine.

The essayist referred to tuberculin as a diagnostic measure, which was good, but I was hopeful that he would refer to it as a therapeutic agent. I want to go on record as a firm believer in tuberculin in the treatment of tuberculosis. I think it is a measure that is worth more to us than any other and one that, properly given, will always produce results. Especially do I believe this to be true in renal tuberculosis. My observation has been that, in this condition, tubercu-

lin properly given from the beginning, as early as the disease can be diagnosed, is a therapeutic measure that stands above anything else. Also, in pulmonary or any other form of tuberculosis, the value of tuberculin should not be overlooked. There is not one of the larger institutions for the treatment of tuberculosis where tuberculin is not looked upon as a therapeutic measure of high value.

Dr. Marvin also touched upon vaccine therapy. I also wish to go upon record as believing that the vaccines constitute the most valuable therapeutic measures that we have at our hand, especially in infections of the genito-urinary tract. I do not believe that stock vaccines are of any great value in many instances, because they do not fully cover the field of infection, but autogenous vaccines, properly made (and we have men here who are able to make them properly) are, I believe, of the greatest value, especially in renal infections. We know, for instance, that colon bacillus infections that have failed to respond to any other form of treatment, have been cured by the use of an autogenous vaccine.

The essayist stated that tuberculous patients were formerly sent West for treatment for tuberculosis. I want to say that this is still practiced with very good results. I do not believe that we can get the same results here that we can in higher and dryer climates. Any man who will take the time and trouble to investigate the statistics relative to the climatic treatment of tuberculosis, cannot come to any other conclusion than that certain climates are much more favorable than others for the treatment of this condition.

In regard to exercise in tuberculosis, some of these patients spend a few months in the Rocky Mountains and appear to be benefited by it. While on a visit to the Rocky Mountains, I had pointed out to me a trail up the mountain side, which was called Isaac's Trail. It took its name from a Chicago man who went there, far advanced in tuberculosis, and essayed to ascend the mountain. During the first few days he could only go about a hundred feet, then two hundred, then four hundred, and so on until, in the course of a few weeks, he was able to reach the top of one of the highest peaks in the Rocky Mountains. After that he ascended and descended so often that he wore a trail, which to this day is called Isaac's Trail.

J. B. Marvin, (Closing): In closing, I wish to simply refer to one or two questions that have been asked.

The point that I wanted to bring out about tuberculosis was this: That a man may have within himself the seeds of Death we know full well, but perhaps he may also have within himself the seeds of life, and if we can bring about a proper balance we may save him. The next point was, I do not see the benefit of having a machine that is so wrecked and so poor that one can do nothing in

this world except to sit in a chair and drink milk.

In regard to tuberculin, like most of us I speak of it with a great deal of diffidence. I have been very slow to use it. I believe I can claim to have been the pioneer in the use of Koch's original tuberculin here, and I have been feeling guilty ever since because I rushed in and used large doses, and may have killed some of these patients.

If you will read a recent article by Lawrason Brown (than whom I do not believe there is a better man in the United States) you will see that he is very conservative in regard to the use of tuberculin. I think we should make a distinction between the reaction from tuberculin, and auto-intoxication, or inoculation. I am afraid that sometimes, in a case of tuberculosis that has had sanitarium treatment and is doing well, if we inject tuberculin we may wake up something that will do more harm than good. Don't be in too big a hurry to use vaccines. Too large doses, too frequently repeated, will do much more harm than good. I have seen marvelous results from a single injection of serum in cases that I had expected to go under, and in which I am satisfied that further injections would have done harm. Feel your way. The modern terminology of medicine is an unknown tongue to the man of medicine of five or ten years ago, and we will do well to familiarize ourselves with it, and to note the trouble that may come from too frequent or too liberal use of the vaccines. The day of intravenous medication is at hand. I have never felt so much like getting out my old lancet and learning how to use it again as I do now. In making these injections we must learn how to slip the needle under the vein easily and fixing it.

A word about salvarsan. Hardly any one believes that, in ordinary human syphilis, one dose will do the work, but we all believe that it will do good. I was taught to do nothing for several months and await developments. Now we know that the earlier we begin on syphilis, the better chance the patient has. Ehrlich says that most of the trouble from salvarsan is due to faulty technique. Unless you have absolutely sterile water, you will get some very bad results from these injections. Another point is this: I do no surgery, but I have been astonished sometimes by the effect upon patients of the mistake on the part of the operator in allowing the subject to see all of the paraphernalia intended to be used in the operation. The shock, or psychic effect, produced by the sight of the instruments, just as you are getting ready to open a vein, will have a very bad effect upon some of these cases.

I know nothing that will produce optic neuritis more quickly than arsenic, unless it is wood alcohol.

A SHORT TALK ON ANESTHETICS.

By W. A. ONDERDONK, Louisville.

In this short talk on anesthetics, the essayist makes no claim for originality, the object of this paper being to awaken more general interest in the subject of anesthetics and the administration of same.

When, in 1847, Sir James Y. Simpson gave to the medical world chloroform, it was thought that the ideal anesthetic agent had been found. Chloroform has a sweetish, pleasant odor; therefore not disagreeable to the patient; is in compact form, therefore easily carried; produces a sleep-like state, with motor and sensory nerves sufficiently dulled to permit of any surgical procedure; there is little post-anesthetic nausea.

The confidence in this agent was short-lived; reports of deaths, which could be traced directly to this anesthetic, were early reported.

To the British Anesthetic Committee we are indebted for the bulk of our scientific knowledge of this drug, though America has not been lacking in this work, and the American physicians early gave up chloroform as the routine anesthetic and adopted those which had proven themselves less dangerous.

Chloroform is taken up mainly by the red blood corpuscles, and it is said, by Moore and Roaf, to form unstable compounds with the protoplasm of the blood and tissues. It is a cardiac depressor, acting upon the inhibitory mechanism of the heart, and producing syncope from dilatation of the capillaries through the vasomotor system. Chloroform inhibits the heart muscle also through the coronary arteries, as is shown by experiments of Sherrington and Sowton.

The prolonged action of chloroform-laden blood results in paralysis of the respiratory center. Failure of respiration has usually been assigned as the first danger of chloroform, and, second, failure of the heart.

There has been much controversy over the point as to whether fatal syncope was due to respiratory or cardiac paralysis. Hewett thinks that the modern consensus of opinion establishes heart paralysis as the chief event. In all cases there is a considerable fall in the blood pressure.

It is recognized as a fact that most deaths from chloroform occur in the early stage of the anesthesia, the stage of excitement. During the struggles of the patient he holds his breath, the pulmonary blood pressure is raised and the venous system is congested. If the anesthetist continues the administration in an effort to "get the patient under," suddenly a deep inspiration carries a densely concentrated vapor to the lungs. Blood laden with chloroform enters the coronary arteries and causes paralysis of the heart

muscle. Most of the primary accidents with chloroform are due to over-dosage. In the administration of chloroform, the Edinburg method of "plenty of chloroform with plenty of air," is safe. Snow, in 1849, advised against using more than 2 per cent chloroform vapor, claiming that a higher percentage was extremely dangerous.

Bevan and Favill have shown that cases of late death after operation under chloroform, formerly thought to be from shock, sepsis, fat embolism, etc., and coming on in from ten to one hundred and fifty hours, with vomiting, restlessness, delirium, convulsions, coma, cyanosis, or icterus, are due to hepatic toxemia. This is caused by the destruction, by chloroform, of the liver cells especially, as well as other structures, and the toxemia is in proportion to the quantity of chloroform used. Only lately, P. W. Monroe, of the City of Mexico, reports in the *Jour. A. M. A.*, six fatal cases of late chloroform poisoning occurring there within fifteen months.

Hamberger and Ewing, in 1908, found that chloroform reduced the hemoglobin in the blood and, therefore, produced anemia. It also produces a decrease in the coagulation time, which is, however, not so marked as that of ether.

SULPHURIC ETHER, OR ETHER, AS IT IS GENERALLY KNOWN.

The exhilarating and anesthetic properties of this agent had long been commonly known, but it was not until Long, of Georgia, in 1842, used it in surgery, that the profession awakened to its value in producing surgical anesthesia, and by 1847 it was in use throughout the civilized world, and is to-day more generally used than any other agent to produce surgical narcosis.

Ether is a clear, colorless liquid; boiling point about 95 degrees Fahrenheit. This low boiling point is one reason why it has not proven satisfactory in the tropics. It is volatile and inflammable, and, when its vapor is mixed with air, explosive; has a sweetish taste and odor; irritant, producing a sensation of cold, and, if sprayed on, the surface may be frozen. If care is not taken the face may be frozen when the open mask is used.

Quoting from Hewett: "Two main characteristics of ether are: firstly, that it is one of the most energetic stimulants known, not only to the circulatory, but to the respiratory, nervous and glandular systems of the organism; that its vapor is, as compared to that of other anesthetics, more irritating to the respiratory passages, so that mucus is often freely secreted."

Ether affects the respiration in two ways. Owing to the irritation of the mucous membranes of the throat and nose, there is a reflex

slowing, and occasionally a temporary inhibition of respiration. This may be accompanied by a spasm of the glottis. Such a disturbance need not be caused if the anesthetic be given slowly. Soon, if the anesthetic is forced, and gradually, when it is given carefully, the nerves of the throat become numb and the respiration then becomes regular and slower. The struggling, gasping respiration can generally be avoided by proper administration of the anesthetic.

The effect of ether on the circulation is modified by its effect on the respiration; the heart beats quickly when respiration is disturbed, and if the respiration is regular the heart is regular; if there is much nervous excitement the heart shows excitement and beats rapidly. The circulation is thus influenced by both the nervous and respiratory systems. When the surgical degree is reached the heart slows and the pulse becomes full and regular unless shock occurs.

In normal conditions, ether usually gives notice of danger by impairment of respiration. In too profound anesthesia or in insufficient anesthesia, when sudden pain may cause pneumogastric inhibition, or in diseased heart conditions, with disease of the coronary arteries, the heart may suddenly cease and death may occur.

Ether gradually produces vasomotor paralysis; the more prolonged the anesthetic and the more anesthesia used, the more vasomotor weakness.

Graham, Stewart, and others, have found that following ether the opsonic index is greatly reduced, and they think this due to the fat-solvent properties of ether, whereby the destruction of bacteria by phagocytes is greatly reduced, and the patient is more susceptible to pneumonia and other infectious diseases.

In the summary of Hamberger and Ewing, of their findings of the effect of ether on the blood, we find, (a) hemoglobin slightly reduced; (b) term of coagulation decreased, most pronounced from 7th to 10th day, and these conditions can be demonstrated after as short an anesthesia as fifteen minutes, and must surely retard convalescence.

Ether is thought to be irritant to the normal kidney, and may cause an albuminuria. It is, however, dangerously irritant when there is an acute inflammatory condition of the kidney and may cause serious trouble.

Ether is about six times as safe as chloroform.

NITROUS OXIDE.

This gas, discovered by Priestly in 1772, and introduced to the medical profession by Wells, in 1844 as an agent capable of producing surgical anesthesia, has until lately remained the least appreciated of all the agents

at our command capable of producing general surgical narcosis. The dentists have long used this agent for the extraction of teeth and other minor work, and to them we are indebted for most of our knowledge. Their clinical work, done without previous preparation of patients, is little short of marvelous. Few casualties have been reported. Of late years, with improved methods of administration, pure gas, and better knowledge of the action of this agent, the medical profession is gradually accepting it for major surgery, and nitrous oxide is surely coming into its own.

Nitrous oxide is a clear, colorless gas, with a slightly sweetish taste, and is produced from ammonium nitrate. We get it in steel tanks under a pressure of about 750 pounds to the square inch. This bulky package is one of the most disagreeable features of its use.

The physiological action of nitrous oxide has been variously explained. Its action, as first taught, was that the gas, after entering the tissues, split up into nitrogen and oxygen, producing hyperoxidation. The fallacy of this theory is proven by nitrous oxide being exhaled in its original state. Another and more dangerous view was that nitrous oxide exercised no specific action, but mechanically displaced oxygen from the lungs, and so led to tissue asphyxia. This theory is easily refuted, for it has been found that nitrous oxide exerts a greater anesthetic power in the presence of sufficient oxygen to prevent cyanosis.

The more rational, and the now more generally accepted theory of its action, was first advanced by Paul Berth, and has been proven by later investigators. This theory is that nitrous oxide is a true anesthetic, which, upon being inhaled into the lungs, is taken up by the blood and lymph; thence to the nerves, producing a temporary cessation of their function, the respiratory and cardiac centers being the last to succumb.

Seeds, if sprouting, cease to develop when placed in an atmosphere of this gas, but resume their growth when again placed in air, or when oxygen is admitted to them.

To Adams, of Chicago, belongs the credit of discovering that, by the addition of the proper amount of oxygen, the asphyxial symptoms of nitrous oxide are prevented without destroying its anesthetic properties.

The question is often asked: "Why cannot air be used to overcome this cyanosis instead of oxygen?" Because atmospheric air contains (approximately) 79 per cent nitrogen, and (approximately) 20 per cent oxygen. Therefore, in using air with nitrous oxide, you can readily see that a great quantity of nitrogen is admitted and only a small proportion of oxygen, when oxygen alone is needed, and Van Arsdale, Kemp, Paul Berth, have shown that 70 per cent. of nitrous oxide

is the lowest possible percentage with which narcosis can be produced.

The Anesthetic Commission of the American Medical Association, reported at its session in St. Louis, as follows: "As a routine anesthetic, nitrous oxid has a peculiar value," Dr. Frederick Hewett, of London, says: "There is no form of anesthesia at present known, which is so devoid of danger as that resulting from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications." Thomas, of Philadelphia, has administered it 271,940 times, (*Jour. A. M. A.*, Nov. 7, 1908, p. 1576), with only one death, which occurred five hours after the administration and was due to apoplexy. Colburn, of New York, has given it in an operation lasting over four hours.

With nitrous oxid, complete anesthesia occurs in from fifty to sixty seconds; and lasts from thirty to sixty seconds; with oxygen this period of anesthesia can be prolonged indefinitely.

The anesthetic is lighter than that produced by ether or chloroform. With oxygen it resembles normal sleep, with complete relaxation, and is seldom followed by nausea.

According to Kemp, there is no direct action on the heart or vasomotor centers. Hamburger and Ewing found no lasting effect on the blood.

Respiration is primarily stimulated, but, unless oxygen or air is admitted, it is secondarily depressed and finally ceases from muscular spasm.

ADVANTAGES OF THE USE OF N O WITH O.

1. Safety at time of its administration, and later in absence of circulatory, respiratory or nephritic complications, or acid intoxication.

2. Rapidity.

3. Comfort of patient, both in induction and absence of post-anesthetic complications.

DISADVANTAGES.

1. Cost. This is somewhat greater than in the use of chloroform or ether.

2. Necessity of skill in administration.

In comparing the death rates of these anesthetic agents, we find, according to the best obtainable statistics:

Chloroform	1-3,162
Ether	1-16,302
Nitrous Oxid.	Hewett found only 17 deaths.

The principal contraindications for the use of N O are:

1. Restricted air passages, goiters, enlarged lymph glands, enlarged tonsils and adenoids.

2. Dilated, weak heart, with or without valvular troubles.

Nitrous oxid should be the anesthetic of preference for those patients who have had unpleasant experiences with other anesthetics, those suffering with grave septic conditions calling for surgical operations, and the tuberculous patients.

The next in safety to nitrous oxid and oxygen, for a general anesthesia, is the nitrous oxid-oxygen-ether sequence. In this method the patient is first anesthetized with nitrous oxid; then use sufficient oxygen with the nitrous oxid to prevent cyanosis, and, as soon as consciousness is lost, begin with ether, giving with the gas in gradually increasing amount, and when complete ether narcosis is obtained, (four to eight minutes), discontinue the nitrous oxid and oxygen and continue the ether with air.

The advantages of this method are:

1. By the elimination of the stage of excitement and the smaller quantity of ether inhaled, there is greater safety than with ether alone.

2. By mixing oxygen with the nitrous oxid, a longer narcosis can be maintained than by the use of nitrous oxid alone, thus permitting ether to be given in a slow, graduating method.

3. Induction period more pleasant for patient.

4. By first establishing narcosis with nitrous oxid and oxygen, then gradually using ether, the excessive secretion of mucus can usually be avoided. The swallowing of the ether-laden mucus adds greatly to the post-anesthetic nausea.

5. Saving of time, as patient is unconscious in about 50 seconds and thoroughly under ether in from 4 to 8 minutes.

6. By using the Cunningham, Teter or the last Gatch apparatus there is less liability of pneumonia or other bronchitis, on account of inhalations being warmed and thoroughly mixed ether vapors only being inhaled by the patient.

Joss found that ether cools the air inhaled through the mask so that it averages 33 degrees F. below the temperature of the room, and that the difference may be even 44 degrees, and claims that the cilia of the ciliary epithelium, lining the air passages, are affected by the variation of temperatures; that the ciliary movement is entirely arrested at the freezing point. Infectious material is thus liable to find its way more readily into the finer passages.

Turnbull, in reviewing deaths from ether, says: "It appears that most deaths from ether occur during the stage of excitement, or before complete narcosis is established."

No deaths have been reported from the use of this method.

The time was, but is now past, when all that

was expected of an anesthetist, was for him to get a patient under an anesthesia keep him quiet and then get him off the table alive.

But now with our more advanced knowledge of the therapeutic action and sequela of these agents, his duties have expanded.

It is now expected that by the careful selection of the agent or agents, and the scientific method of administration he should bring about a pleasant and tranquil state of narcosis, to use as small amount of the anesthesia as is consistent and when patient is taken off the table, to leave him not only alive, but, as far as the anaesthetic is concerned, in a better condition for convalescence.

DISCUSSION.

J. W. Heim: About the last thing that I heard the essayist say, was that no deaths had been reported from nitrous oxid and oxygen anesthesia, but deaths have been reported from all forms of anesthesia. I have had one death to occur on the table, while the patient was under nitrous oxid and oxygen. Of course, I would not say that death was due to the anesthetic, because we cannot say positively that any of these deaths are due to the anesthetic employed.

I arrived late and did not hear all of the paper, but, in the main, I agree with the essayist in what he has said.

One point that I want to emphasize is that nitrous oxid and oxygen is by far the best means of inducing anesthesia in every case, unless perhaps in the case of very young infants. Anesthesia is so rapidly produced, and such a small amount is required that, if we are not very careful, we may get the child too far under. Furthermore, if the child is very small, the cone does not fit the face. However, in practically every case, if we are going to give ether, it is much safer to begin the anesthetic with nitrous oxid. The greatest danger from any anesthetic is in the beginning and by using nitrous oxid we get the safest anesthetic at the most dangerous time. We also have less nausea when we begin with nitrous oxid. The patient does not swallow the ether-halen mucus because the reflexes are abolished before the ether is begun.

I have enjoyed the paper very much indeed.

E. L. Henderson: I wish to congratulate the essayist upon his excellent paper; he has left very little to be said in discussion.

I wish to endorse what Dr. Onderdonk and Dr. Heim have said in regard to inducing narcosis with nitrous oxid and oxygen, especially where it is intended to use ether. In my opinion, it is by far the safest method of inducing anesthesia. If a little atropin be given prior to the anesthetic, and narcosis induced by means of nitrous oxid, post-operative nausea will be lessened to at least forty per cent.

Another point I wish to mention is the possible danger from the use of nitrous oxid. So much

has recently been said in regard to the safety of this form of anesthesia that it would lead one to believe that there is practically no danger, whereas, I believe that, in the hands of an inexperienced man, nitrous oxid and oxygen is really more dangerous than ether or chloroform. However, in the hands of experienced men, I believe it is the safest anesthetic we have to-day. The essayist stated, I believe, that no deaths had been reported from the use of nitrous oxid. On the contrary, during the past year quite a number of deaths have been reported from this anesthetic, but they have all been in the hands of inexperienced men.

Ben Carlos Frazier: Dr. Henderson has just brought out a point that is not appreciated by many of us as it ought to be. I think inexperienced men are the ones who lose patients, from ether, chloroform, or any other anesthetic. It has been my observation during the past eighteen years that most of the patients that have been lost from chloroform in this city, have been by men who have not had experience in giving any anesthetic. I have never given nitrous oxid, and I would be afraid to give it because I have had no experience along that line.

J. Garland Sherrill: This subject is interesting to all of us, and especially to the men doing operative work. My observation has been that the choice of an anesthetic is determined largely by the experience of the man who is giving it, and, secondly, by the condition of the patient who is to receive the anesthetic. Certain forms of anesthesia are contraindicated in certain conditions. In old patients, or in cases where there is bronchial irritation making it inadvisable to have the amount of secretion that is caused by ether, chloroform is undoubtedly the best anesthetic, while in certain other conditions, ether is unquestionably to be preferred.

Up to ten years ago I was a strong advocate of chloroform, having seen it used more often than ether throughout the various clinics of the world, some men not hesitating to give it in the presence of heart murmurs, and under practically all conditions. I have seen it administered in a number of cases in which ether advocates had refused to give ether. Therefore, I say that in giving any anesthetic, we must have a man who is familiar with what he is giving and the anesthetic must be suited to the condition of the patient. The first dose of chloroform may kill your patient by causing paralysis of the heart, or death may occur later from an overdose of chloroform, resulting in paralysis of the respiration. Therefore, chloroform should be administered very gradually.

I must confess that I have known of deaths from chloroform in this city in the hands of very competent men. I have also known of deaths from ether under similar circumstances, and I believe deaths will occur, no matter who is giving the anesthetic. Therefore, I do not think we

should attribute all deaths from this cause to incompetency on the part of the anesthetist. I have seen two patients die under ether and one under chloroform. These cases were all in the City Hospital and not in my private practice. In the chloroform case, the patient was very seriously handicapped. He had a collapsed lung prior to the administration of the anesthetic. We all agreed that it would be pretty risky to anesthetize him, but he was in such condition that it was deemed advisable to attempt it. Whether he died from the anesthesia alone, or from a combination of the collapsed lung and the anesthesia, I do not know. The chest was immediately opened and the heart manipulated, without avail.

I recall a death which occurred from nitrous oxid and oxygen anesthesia in the office of a dentist of this city. The history obtained later showed that this patient had had a diphtheria some weeks before, which at the time was thought to be tonsillitis. I was in the adjoining office and was called in to see the patient after she was dead. I do not think this death could be ascribed to incompetence, because the anesthetic was administered by a man who has given a large number of nitrous oxid anesthetics as formerly given by dentists.

The greatest danger in giving an anesthetic is in allowing the patient to come out and then put him under again. The reason for this is apparent. Every time the patient comes out and is put under again, he is given a little more shock. I don't want a man who is afraid to completely anesthetize the patient; I want a man who will put the patient under and keep him under until the operation is completed. I believe that, with any anesthetic, the best results are obtained by keeping the patient under the surgical degree of anesthesia.

J. Hunter Peak: I know very little about giving anesthetics, although I have had a great many of them given for me. Dr. Onderdonk has given several hundred anesthetics for me during the past eighteen months, and we have not had a death from anesthesia in that time. Only once has any condition arisen which has given us any trouble. This was a patient who gave a history of some previous nephritic trouble, but at the time of operation, which was a perineorrhaphy, urinalysis was absolutely negative. On the second or third day following the administration of ether, the patient developed an anuria and we had a hard time in getting the urine started again. Whether the administration of ether was responsible for this trouble, by starting up the old nephritis and producing an acute condition, I am unable to say positively, but I believe it was, because, following this, the woman had considerable albuminuria which afterwards cleared up, and she is now in good health.

Prior to the adoption of the present method of warming the ether vapor before it is administered, I saw three deaths from ether pneumonia,

from 72 hours to 6 days following the anesthesia, but we do not have this trouble now. I have also seen one death from chloroform anesthesia. This patient was in very poor condition for anesthesia, and just about the time the first incision was made, he died. Apparently, death was due to paralysis of the heart. If, when we give chloroform anesthesia, we can get the patient off the table and into bed in good condition, the subsequent complications are less than from ether. However, under the present method of warming the ether vapor, I have not seen a single bad result from it.

In regard to nitrous oxid and oxygen, I am glad to say that I have confidence in the man who gives anesthetics for me, and I allow him to give whatever he thinks is best suited to the individual case. The anesthetist should have an opportunity to see the patient the day before operation, and examine the heart, lungs, condition of the kidneys, etc. He should make these examinations himself, so as to familiarize himself with the exact condition of the patient, and he should then be the judge as to what form of anesthesia should be administered. I prefer an anesthetist who is competent to administer more than one form of anesthesia. If a man is going to make a practice of administering anesthetics, he should be able to meet conditions as they arise, and to give any kind of anesthesia that may be indicated. We are all called upon to face conditions that are ordinarily unlooked for, and the same thing may reasonably be expected of the anesthetist.

John B. Richland, Jr.: There are just two points I wish to mention. Dr. Sherrill mentioned the danger of allowing the patient to repeatedly go under and come out. Ninety-nine times out of a hundred this is the surgeon's fault, because he will not wait until the anesthetist can produce the surgical degree of anesthesia.

The second point is the question of the anesthetist's fee. It seems to me that it is asking a great deal of a man who trains himself as an anesthetist should be trained, to expect him to be satisfied with a fee of five dollars for giving an anesthetic in a case in which the surgeon's fee is from two hundred and fifty to five hundred dollars. The anesthetist's fee should be based, as the surgeon's is, upon the patient's ability to pay.

W. A. Onderdonk, (Closing): I wish to thank the gentlemen for their discussion of the paper.

Answering one of the speakers, I will say that the statement made in the paper was that to my knowledge no deaths had been reported from nitrous-oxid-oxygen-ether anesthesia. I also stated in the paper that the anesthetist, is, and should be, expected to exercise great discretion in his choice of an anesthetic in any particular case.

THE TREATMENT OF NEPHROPTOSIS.

By J. HUNTER PEAK, Louisville.

There has been so much written upon the subject of movable kidney in the past few years, that it would be impossible, in a twenty-minute paper, to take up the entire subject in detail; hence it is my desire to limit this short essay to the consideration of the treatment of movable kidney, in order that a free discussion of this phase of the subject may be elicited.

To be perfectly fair, I want to give a brief resume of the subject as contained in the published views of writers on both internal medicine and surgery.

Tyson, in the fourth edition of his work, page 749, says: "As may be inferred, many cases of movable kidney require no treatment. In a few instances, the symptoms are relieved by improving the general health; in others the patient is comfortable while lying on the back, and such comfort may continue for a time after rising. When decided symptoms attributable to the kidney are found, surgical treatment for fixation is alone of permanent value, and this sometimes fails. The use of pads and supports has never proved successful in my cases. Dr. A. Symons Eacles, however, has reported five cases of nephroptosis treated by an abdominal belt and pad, massage and exercise, with relief of all symptoms."

Dr. William Gilmore Thompson, in his second edition, page 710, says: "My experience with pads and bandages is that they do more harm than good. As the symptoms are intermittent, disappearing for long intervals, I usually advise patients to bear with them, seeking only to avoid the strain of jarring or jolting, or any excessive fatigue. Intractable cases may be relieved by sewing the kidney capsule to the abdominal wall, but it may break loose again, and the operation, while sometimes curative, and usually attended by little or no risk, may fail of permanent relief. It is scarcely to be recommended for kidneys which are merely 'palpable' and not 'floating'. Rest upon the back for three or four days sometimes gives relief for a considerably longer period. The general treatment is that of neurasthenia and nervous dyspepsia, conditions most often associated with movable kidney; and much can be done by building up the general health and strength and improving the muscular tone."

G. Dieulafoy, in his fifteenth edition, volume II, page 1197, says: "The medical treatment of movable kidney has as its object the maintenance of the organ in position by appropriate bandages. Massage may give good results. Nephropepy is often necessary. This operation consists in provoking adhes-

ions between the kidney and the abdominal wall.

Tuffier's figures read: In 163 cases: Perfect cures, 86; lasting improvement, 25; satisfactory results, 24; temporary improvement, 8; failures, 20.

"In several cases the ectopia and co-existing nephritis have been cured simultaneously by nephropepy."

Alexander Bryan Johnson, in his second edition of "Surgical Diagnosis," Volume II, page 402, says: "In the somewhat rare cases in which spontaneous reduction does not soon occur, the attempt may be made to rotate the kidney bimannually into its normal position; this effort has been successful, in a few cases, in giving temporary relief. Prolonged rest in bed is a very valuable, and usually temporarily successful, mode of treatment. Elevation of the foot of the bed, and even a partial Trendelenburg position, may also be tried. In the large majority of cases of movable kidney, its fixation in the loin by suture is a certainly curative procedure."

Sir Frederick Treves, in his "Operative Surgery," Volume I, Page 535, says: "The subject of nephroptosis, or movable kidney, has of late caused much discussion. On the one side are those who say that the condition is found in one woman out of every five, that it rarely causes trouble, and that it is but an incident in a general disorder, and that any treatment, if required, should consist in the use of supporting apparatus rather than an operation; on the other side are those who affirm that floating kidney is the cause of considerable trouble, both local and general, that it usually requires an operation, which operation will relieve all symptoms in three fourths of all cases. The truth must lie somewhere between these two extremes."

Now, since the profession recognizes the existence of such a condition as movable kidney, and nearly all claim that from seventy-five to eighty per cent. can be relieved by operation. I do not see any valid reason why movable kidney should not always be placed in the category of surgical conditions. Since we now know the concomitant symptomatology of this very prevalent condition, I do not understand why every case should not be operated upon, just the same as any other surgical condition of equal gravity. The claim that many cases do not cause any trouble, I do not believe can be substantiated. Particularly is this true if the kidney is freely movable. Then why should a physician subject his patient to the trouble and inconvenience of wearing belts, adhesive dressings, and taking long rests in bed, from which nothing but temporary relief can be expected. If admitted that, for a while, this condition may not cause trouble, is it not true that it will do so,

sooner or later? Or, may it not begin to be troublesome under some exciting cause, possibly as the result of an accident of some kind occurring during the ordinary routine duties of life? Then, too, a fibroid uterus may not cause trouble for many years, but please show me the physician of to-day who will contend that, in the presence of such a condition, the uterus should not be removed, barring some physical contraindication to operation. We are told that, in some cases, operation will fail of permanent relief, yet the same men admit a very large percentage of cures. Again, I say that a few operations for hernia are failures; yet we never hear any one say that, because of this fact, a patient suffering from hernia should not be operated upon. Therefore, I claim that nephropexies, in the hands of skilful operators of to-day, are just about as successful as herniotomies; yet the technique of herniotomy is as old as surgery, while that of nephropexy is as yet almost in its infancy. For one to say that this operation has not been successful in his hands is to admit that his technique is faulty.

In a discussion of the treatment of movable kidney, it is not my intention to go into the operative technique of nephropexy; this can be found in all of the best works on operative surgery. However, I desire to give you some of the valuable points that I have learned by experience.

In my judgment, the only treatment, other than surgical procedure, can be summed up in a few words; namely, proper attention to the general health, with a view of increasing the muscular tone, particularly of the abdominal muscles. This may be accomplished by hygienic living, with due regard to passive and active exercise, such as massage of the abdominal muscles, which should always be done by stroking from below upward, with the patient in a reclining position with the hips higher than the shoulders, together with such other calisthenics as will develop the abdominal muscles.

The only abdominal support worthy of mention is an adhesive plaster dressing, applied as follows: The abdomen should be shaved, for obvious reasons. The patient should stand perfectly erect. Then begin with two-inch zinc oxide adhesive, starting the dressing one inch beyond the median line, low toward the pubes, letting it come upward and onward, just above the crest of the ilium, and stopping one inch short of the median line in the back on the right side, then a similar one on the left, and this should be repeated on either side, overlapping in front but not in the back, until the various strips of adhesive are carried up to, but not including, the umbilicus. This method, of course, has one very objectionable feature, that of skin irrita-

tion when worn too long. This form of dressing may give considerable relief to patients who will not submit to operation, or who, from some physical cause, are not good surgical risks. Likewise, it is a good dressing to give support during the five or six weeks of convalescence following nephropexy. Those who advocate the wearing of certain kinds of corsets will find this dressing to be of great service, and one which will not interfere with the wearing of the corset.

There are a few points in connection with the operative treatment that are worthy of mention. One method, which is still advocated by some writers, consisting of packing the wound in the back with gauze after suturing the capsule to the muscle, allowing union by granulation with a view of obtaining stronger adhesions between the kidney and abdominal wall, need only be mentioned to be condemned.

The reckless handling of the kidney in freeing it of the fatty capsule, and by bringing it out through the wound in back is wholly unnecessary, though it is still advocated by some good operators. This is not only unnecessary, but the kidney may be done much damage. It should be remembered that the fatty capsule is there for an anatomical purpose, and should not be sacrificed. All that is necessary is to divide the fatty capsule longitudinally, by blunt dissection, and reflect it to either side. This gives you a good view of the fibrous capsule, which should be divided a little to the outer side of the convex border, from pole to pole, and reflected on either side about one-half inch, then sutured on either side to the muscle, being exceedingly careful that all of the fatty capsule is well beyond the suture line and well out of the field of the lumbar wound.

I have found by experience that the best incision is one made at the outer border of the erector spinae muscle, extending from the twelfth rib nearly to the ilium. You will encounter the ileo-hypogastric nerve, which may sometimes be double. This nerve should not be cut, because it supplies the skin over the side of the abdomen and crest of the ilium with sensation, and, if injured, it will cause much pain, and if severed, the patient will complain of a peculiar numbness, sometimes for many months. The surgeon should be careful also, because such an accident will cause the patient intense suffering for two or three days.

Fullerton's technique of using a strip of the fibrous capsule for the purpose of fixing the kidney to the twelfth rib in the manner so elegantly recommended by Mr. Billington before our society recently, is most heartily condemned by the best surgeons in this country and in Europe. Sir Frederick Treves, of

Mr. Billington's own city, condemns the technique in no uncertain terms. Personally, I have never used this method for the following reasons: First, you have to handle the kidney roughly by bringing it out through the wound in the back in order to strip down the capsule from the upper pole. Second, such a strip would not be strong enough to hold, and would tear off the first time the patient coughed or vomited. Third, the kidney has normally, a free vertical excursion within its fatty capsule, of at least one to one and one-half inches, on respiration, and the main object of nephropexy is, not to fix the kidney, but to anchor it, and if this strip of the fibrous capsule should hold, it would be fixed and not anchored. Fourth, normally the kidney and ribs have diametrically opposite movements on respiration, and this alone, it seems to me, would be a contraindication to such a procedure.

In dressing the wound it is best to use only a small piece of gauze, held in place and protected by adhesive plaster passing well around over the abdomen to insure support to the abdominal viscera.

One of the most important points in the post-operative treatment is to avoid the use of opiates as far as possible, as they produce nausea and vomiting, conditions certainly to be avoided.

Another important procedure is the elevation of the foot of the bed about eight or ten inches, in order to secure the benefit of gravitation. The patient does not notice nor complain of this position, which should be maintained for about fifteen days.

The bowels should be kept regular by enemata in order to avoid constipation. Enemata are much better and safer than purgatives, which often cause nausea and vomiting.

The patient should be kept in a recumbent position for twenty-one days following the operation, and should be cautioned against violent exercise or jarring during the period of convalescence.

DISCUSSION.

Jno. R. Wathen: In view of the very exhaustive paper Dr. Peak has presented on this subject, and in addition to the papers read before this society by two noted Englishmen on a recent occasion, it is difficult, in a discussion of this subject, to present anything that will be at all new.

I think we are unfortunate in having the term "movable" kidney or "floating kidney," for the reason that it may sometimes lead us to overlook the fact that, from an anatomical point of view, the kidney should move. We all know that the normal healthy kidney should have an excursion, upon inspiration, of at least one inch. In very pronounced general enteroptosis, where all

of the abdominal viscera are partially dislocated or freely movable, possibly due to a colon full of fecal material pulling upon the ligaments, we may have a kidney so freely movable that I doubt whether, in many instances, surgical treatment will be of any benefit. Hahn was the first to call attention to movable kidney and to discuss the symptoms accompanying this condition. We are all familiar with Diell's crisis, and other diagnostic points pathognomonic of this condition. However, it remained for Edehols, twenty years ago, to recommend and practice surgical treatment of this condition with any degree of success. He has further called attention to the fact that chronic nephritis is frequently associated with movable kidney, and that when the kidney is partially decapsulated, the chronic nephritis is benefited, which is a very valuable point.

As to the frequency of the occurrence of movable kidney, it has been estimated, by a German surgeon, that it is found in one of every twenty-two women, and in men, in one of every two hundred and seven. Whether or not pregnancy has anything to do with it is a question. It has been estimated, by some Austrian surgeon, to occur in as many as 40 per cent. of women who have not borne children.

Now, as to diagnosis of this condition by palpation. On the right side the kidney can be palpated in possibly 60 per cent. of cases; on the left side, in 8 per cent. of cases in men and 30 per cent. in women. There is undoubtedly a congenital condition associated with movable kidney, just as in enteroptosis, we find it in many members of the same families. I will not go into the causes that produce this condition, because they are as yet little understood.

I believe that intraabdominal pressure will tend to relieve this condition. That is really the ground upon which is based the use of corsets, and kidney supporters, but it has always appeared to me to be quite a different proposition from the use of a truss in hernia, because, in the latter condition, we can, to a certain extent, obliterate the canal by pressure and hold it in place, but to fit a corset so that it will hold a kidney, which is about the slipperiest organ we have to deal with, is almost impossible.

As to treatment, it has been estimated that surgical treatment will cure from 65 to 78 per cent. of cases, but at least 20 per cent. of all operations will be, to a certain extent, absolute failures. In my opinion, the best treatment for movable kidney is, and will always be, some surgical procedure, and we must select the operative procedure that is best suited to each individual case. The object of the operation, as demonstrated by the Englishman mentioned as well as others, is to sustain the kidney and hold it in place by means of the capsule and otherwise; therefore, we should entirely close up the dead space left when the kidney is replaced from the place into which it originally sank behind the colon, and thus se-

cure additional support for the kidney at that point. A long incision should be made in order to enable us to close up this space below the kidney. In my opinion, the incision recently recommended by Dr. Mayo is the one that should be adopted.

I think any operative procedure for fixing the kidney in position is better than depending upon outside pressure from corsets and other supports, because here we are working in the dark and are unable to prophesy anything in the way of a positive cure.

W. F. Boggess: Dr. Peak did me the honor to ask me to open the discussion of this subject from the internist's point of view, and I very much appreciated the fact that he considered that there is any medical side to this proposition, especially as he has told us in the paper that nephropotosis is always a surgical condition. However, I am of the opinion that there is a medical side to many of these surgical subjects, and this holds true in nephropotosis, even more than in appendicitis. The medical side consists, primarily, in diagnosis, and if there is any one thing that is of more importance to the patient than another, either in appendicitis or nephropotosis, it is diagnosis. In nephropotosis, however, I go further, and say that, not only is the question of diagnosis one for the internist, but that there is a medical side to the treatment of any of the visceroposes and especially nephropotosis. The subject of movable kidney is one of the most difficult problems with which the internist has to deal. Any amount of splanchnopotosis, or other visceropotosis, is entirely compatible with good health and perfect nutrition. Not every one with floating or movable kidney is diseased; not every one should be operated upon. Many persons will carry a movable kidney, or a general visceropotosis, for a long time and remain in perfect health. It seems to me that surgery in nephropotosis should be restricted to those cases in which there are symptoms local in character and entirely dependent upon the misplacement of the kidney, such as Dietl's crisis, attacks simulating renal colic, localized distress, etc. In such cases I agree that the kidney should be anchored by a capable surgeon. But, unless we have local symptoms distinctly referable to the kidney misplacement, I do not think it is a suitable case for surgical intervention, and especially if the kidney misplacement is a part of a splanchnopotosis and a general visceropotosis, in which event I do not believe that simply anchoring the kidney will give the patient any relief other than that produced by the rest enforced and the psychical effect of the operation. Again, if there are certain constitutional conditions such as indigestion, constipation, neurasthenia, hyperchlohydria, either sensory or motor disturbances, that have resulted from the visceropotosis, anchoring the kidney does not give the relief expected, because these chronic conditions, although primarily due

to the kidney misplacement, will continue after the operation.

I must confess that my experience in cases that have been operated upon has not been encouraging. Whether it has been due to faulty technique on the part of the surgeon, or whether nephropexy does not do what the surgeons claim for it and leads to exstrophy, I am unable to say.

There is a medical side to the treatment of general visceropotosis, as well as localized nephropotosis. There have been other writers since Glénard's time, but I do not think they have improved upon his monograph describing the symptoms resulting from misplacement of the kidney, not do I believe we have made material advances in the medical handling of these cases. He outlined the following methods of treatment: First, replacement of the abdominal viscera, whether the stomach, kidney, colon, or what-not, by mechanical means, if possible. Certain misplacements of the kidney may be relieved, and the patient made comfortable, by means of mechanical appliances. Second, improvement of the nutrition. This is absolutely necessary. The kidney is normally held in place by the peri-nephritic fat, which, in many of these cases, is practically entirely absorbed. Therefore, by improving the patient's nutrition, we increase the peri-nephritic fat and also strengthen the abdominal muscles, and the kidney is thus held in place by natural means.

Constipation is another very important point. As Dr. Wathen has truthfully said, the constant sagging and pulling of the colon or large gut, filled with fecal material, has a tendency to pull the kidney down with it. In such cases we must back up the constipation if we expect to accomplish anything in the way of relieving the misplaced kidney.

Next, the treatment of the neurasthenic stage. This comprises the medical treatment of nephropotosis, and until it has been thoroughly tried without results, and the patient has local symptoms referable to the misplaced kidney, I do not think we are justified in sending the case to a surgeon for replacement of the kidney by surgical means. I believe that the number of cases of nephropotosis that require nephropexy is very small in comparison to the total number of such cases that we see. Furthermore, I believe that when such operative procedure is carried out, by a competent surgeon, we should expect good results from it just as we expect good results from herniotomy, and other operations of like character.

Curran Pope: I would like to say just a few words, consisting largely of a reiteration of my remarks in the discussion of papers read by Dr. Suckling and Mr. Billington on the occasion of their recent visit to this city. From the standpoint of the neurologist, we do not recognize such a condition as the "neurasthenia of nephropotosis." However, we may have **neurasthenoid**

symptoms, or symptoms that resemble neurasthenia, in cases where there is a kink in the ureter. We oftentimes have neurasthenoid and hysteroid symptoms which are the result of the toxemia which occurs from mechanical obstruction, but we have not, in the true sense of the word, a neurasthenia.

I would like to supplement Dr. Boggess' remarks as to therapy, and also to mention several other conditions which should lead us to not send these patients to the surgeon for operative procedure. One of them is surgical contraindication. Some of these patients are not in condition, in any sense of the word, to stand a surgical operation, and we certainly could not justify ourselves in sending such a patient to the surgeon for operative work.

It has always seemed to me (and we neurologists see a good many of these kidneys misplaced in varying degrees) that the physician's mind has ceased to cerebration at the point where he applies mechanical pressure to the abdominal wall in these cases. He seems to forget that the abdominal wall is composed of muscular tissue in a number of layers; that this muscular tissue is capable of contraction and, therefore, capable of development, and that we have a painless, easy and simple method of strengthening, not only the abdominal walls, but the individual layers, if we choose, on either side of the abdominal wall, by means of the sinusoidal current, which will produce strong, powerful, painless contraction, relieves constipation and strengthens the abdominal walls. Personally, I believe that if I had a patient, whose symptoms I believed to be solely due to a misplaced kidney, and whose general condition was otherwise good, I would unhesitatingly suggest to that patient that the quickest and best and safest thing to do would be to have the kidney replaced by surgical procedure, thus correcting the deformity, so to speak. But there are many cases in which we should not even contemplate a surgical operation. While we may classify nephroptosis as a strictly surgical condition, still we must remember that oftentimes these "strictly surgical conditions" find the patient in such condition that operative procedure cannot be undertaken with safety, and we are compelled to give them medical instead of surgical treatment. It seems to me that we should practice conservatism in both surgery and medicine, and avoid making sweeping assertions that such and such a condition is a strictly medical or a strictly surgical one. Furthermore, I do not believe that, under present-day conditions, medicine can possibly get entirely away from surgery, nor surgery entirely away from medicine, and that, after all, it resolves itself into that old, time-honored profession, that when you sit down to study a case, the best thing to do is to bring into play just a little bit of good hard common-sense and brains.

Wm. H. Wathen: I have been operating for

movable kidney for nearly twenty years, beginning soon after Edebohl began his work. I had the pleasure of witnessing some of his early work and admiring his beautiful technique. I have read no description of any operation, before or since, that I think is superior to that of Edebohl. The trouble is that a good many operators only imitate Edebohl and they do not get good results. His operation is simple and practically devoid of danger. It gives a good area of the de-capsulated kidney that is brought into contact with the thoroughly denuded surface of the posterior wall of the abdomen, to which it becomes adherent. I do not agree with Dr. Peak that, after the fixation of a kidney, it should still have a certain degree of mobility. There could be but little mobility following an operation after the method of Edebohl, in view of the wide area of adhesions which results, nor do I believe there is any necessity for mobility. In a number of women who had been operated upon after the method of Edebohl, and permanently cured, I was not able, upon examination, (through very thin walls in most instances) to detect any mobility of the kidney. Only a few days ago it was reported to me that a woman, upon whom I had operated last fall after this method, had been relieved of all of her symptoms. Less than a week ago I operated upon another woman after the same method, and I anticipate a permanent cure of the condition on that side; later I may operate for the fixation of the other kidney.

The question sometimes arises, what shall we do in cases where we have bilateral nephroptosis. Generally speaking, we may operate, with perfect success, upon both kidneys at the same time. I did not do so in the case I mentioned for the reason that the total solids eliminated in the urine was far below the normal, and the percentage of urea was also not up to the normal. Therefore, I did not desire to take any risk of crippling the functioning powers of the kidneys. Had the excretion of solids been equal to or above the normal, and the percentage of urea likewise, I should have operated upon both kidneys at the same time.

As to the incision, I prefer a straight incision down just to the outer border of the erector spinae in cases where there is a reasonable length of ileo-costal space, and through this the kidney can be readily delivered. As to working upon the kidney and fixing it without removing it through the wound, I take no stock in this whatever. A kidney to be operated upon properly and fixed correctly, must be removed through the wound, the sutures properly introduced, and the kidney to fall back.

In doing this operation, we must be careful to separate all of the fatty capsule from the abdominal wall, going back far behind the kidney so as to avoid the possibility of injuring the colon or making an opening into the peritoneal cavity. Then separate the capsule from the kidney, push-

ing most of it in front. When the kidney has been fixed, close the wound.

Every case of simple misplaced kidney is not an operable one. A movable kidney superimposed upon an inherited neurasthenia is not an operable case, as a rule. A case of acquired neurasthenia, or, as Dr. Pope calls it, a neurasthenoid condition as the result of a movable kidney is always, with few exceptions, an operable one.

No one has said anything about digestive disturbances in movable kidney. In a large experience with these cases during the past twenty years, I have found that the conditions which give the most trouble are two in number; namely, digestive disturbances and nervous disturbances. The disturbance of digestion is caused chiefly by the pulling down of the pylorus and duodenum by the sagging of the kidney, and this is usually relieved, in operable cases, by proper fixation of the kidney.

In regard to constipation resulting in movable kidney, I believe this is true to a certain extent, but not to the degree that may be imagined from the remarks that have been made here to-night. We will find nine cases of movable kidney on the right side to one on the left. We know that on the left side the bowel does not exert any great amount of pulling upon the kidney, for the reason that on the right side we find a comparative liquid condition of the feces, while the opposite is true of the left side. Furthermore, on the right side there is no fixed condition of the hepatic flexure, whereas on the left side we have a fixed condition high up, about the ileo-costal ligament. Therefore, we do not have as much pulling down of the kidney by the bowel on the left side as on the right.

Guy P. Grigsby: I have had opportunities for seeing a great many of these cases of misplaced kidney. It is a peculiar fact that when a surgeon discusses a subject of this kind, he looks upon it entirely from a surgical standpoint and advocates radical methods, while the medical man looks at it entirely from his side. It would seem that we might strike a middle-ground and have a sane and rational discussion of these subjects.

I have seen a good many nephropexies performed and the result has generally been satisfactory. Undoubtedly, however, many of these cases are operated upon that do not need operation. I have seen several cases operated upon in which the symptoms supposed to be due to a floating kidney did not clear up after the operation. I think Dr. Bogzess has very concisely stated the situation. Most of these patients are in a very emaciated condition, in whom the fat or adipose tissue that normally supports the kidney is lacking. Frequently such cases can be cured without operative procedure, and if we must err, it is better to err upon the side of conservatism.

Louis Frank: I was glad to hear Dr. Grigsby say what he did. I am not in accord with

everything that the surgeons have said here to-night. My own experience has been that, if all patients, of either sex, who come under my observation with movable kidney, required surgical intervention, I would be kept so busy anchoring kidneys that I would not have time for anything else. I had thought, from the great amount of discussion of this subject some years ago, at the time that Edebohl brought out his book and first published his articles and from the conclusions arrived at by men of vast experience since that time, that this subject had been pretty well settled. That some men have met with a lack of success, I think has not been so much due to any fault of the particular operation carried out for the cure of this condition, as it has to the fact that the cases were illy selected. However, there is no operation, that has been done by operators other than the essayist to-night, that has not occasionally resulted in failure; his experience differs from that of all other men who have done work along this line.

The question of movable kidney should be considered from two different standpoints; namely, those that occur in the normal type of man or woman, and those which develop in the tenth or twelfth year of life. The latter type occurs in those children who have other stigmata, such as a narrow chest, narrow epigastric angle, etc., which continue through life, and this is an entirely different condition to that which we see in women with lacerated perineums, who have borne a number of children, with lax anterior abdominal walls, etc. I have learned in late years from observation of the work of others as well as from my own experience, not to operate upon these cases merely because the kidney is movable. In not one out of fifteen or twenty of these cases that come to me do I mention the fact to the patient. In some instances I advise them to go to a neurologist for treatment to improve their general condition. There is a certain type of cases, however, that do require operation, but they cannot be picked out by a mere physical examination in the office; it requires very careful and painstaking examinations and observation to recognize them. These are the cases that have Diehl's crisis, due to obstruction of the ureters. If we will examine them with a ureteral catheter, we will usually find considerable dilatation of the pelvis of the kidney, exfoliation of the pelvic epithelium, or a bacteremia. These are the cases that should be operated upon for fixation of the kidney.

Another type of cases is that in which there is more or less gastropexia, or enteropexia, in addition to movable kidney. This can be easily detected by giving the patient a bismuth meal and having a radiograph made. They can be isolated from the other type if we will give these cases the careful study that they deserve. I do not believe, however, that just because the patient has a movable kidney, which makes an ex-

cursion down into the pelvis or to the other side of the abdomen, or where we can get the hand between it and the ribs, we are justified in advising an operation. That is not the right sort of surgery, and is not the kind that will serve to maintain surgery in good repute.

I was surprised to hear Dr. Wathen give as a reason for not operating upon both kidneys at the same time, that the excretion of solids and percentage of area were below the normal. Such being the case, it would indicate existing insufficiency of both kidneys, and he should not have operated upon the patient at all at that time.

I was also surprised at the essayist's statement that, after operation, the kidney should have an excursion of at least an inch. I cannot conceive of any operation upon the kidney that will fix it and still permit its normal range of mobility.

Hugh N. Leavell: This is an exceedingly interesting subject, from a medical as well as a surgical standpoint. I agree with one of the speakers that conservatism should rule. Whenever we find a woman who is conscious that she has something moving within her, whether a kidney, a colon, stomach, a live foetus, or what-not, we are in for trouble. Whether these conditions give rise to what Dr. Pope has termed *neurasthenoid* symptoms, I cannot say, but I am certain that, sooner or later, they usually become *neurasthenic*. If we will stop to consider how this trouble may get started, I think we will all realize that the paper this evening and the ensuing discussion has just "taken a little bit off the top," as it were. Dr. Wathen, in his discussion, said that the most immovable part of the colon was the splenic flexure. We will grant that for a moment. He also said that constipation is almost always the rule in these cases. We will also grant that. Now, if we have a colon, loaded with feces at the splenic flexure, does it not necessarily follow that it will, sooner or later, become angulated, and that this angulation will produce greater tension below the angle, which will finally cause the colon to be divested of its proper musculature, then become more than normally dilated, and still further tend to pull the kidney from its anchorage? It began then, if you please, with an enteroptosis, followed by auto-intoxication, resulting in interference with the musculature all over the body. It is not limited to the kidney, but also involves the musculature of the stomach, uterus, etc., and explains why we get such miserable results from fixation of the uterus in these "*neurasthenoid*" cases. It also explains why we do not get results by simply taking a "little bit off the top," and merely fixing the kidney.

I agree with Dr. Frank that we should wait for manifestations other than simply something moving inside the abdomen before subjecting these patients to operation. We should wait for disease symptoms, Dietl's crisis, and be sure that the function of the kidney is being interfered

with before we operate. As I said before, if we are looking for trouble, start to work on one of these cases. I have treated a great many of them, both medically and surgically, and they have not added to my reputation. I am quite sure that, with the style of nephropexy advocated, going in above and looking down upon the situation, as it were, we will not be able to accomplish the results described in the paper with which we have been so beautifully entertained to-night.

J. Hunter Peak (Closing): I am certainly glad that my paper to-night has been considered worthy of discussion at least. I do not hesitate at any time to say what I think in regard to these conditions. If you desire to take issue with me, all right; I will take it good-naturedly.

As the hour is growing late, I will not attempt to go into any of the points brought up by those who discussed the paper.

WEAK FEET.

By W. BARNETT OWEN, Louisville.

Weak feet, commonly known as flat feet, which is a most unfortunate misnomer, as all flat feet are weak but all weak feet are not flat. This is a condition of partial or complete weakening or stretching of the ligaments primarily, and of the muscles secondarily, having to do with the holding together and supporting the bones of the tarsus forming the instep, on which the body weight is supported. The result of this condition is to cause a partial or complete dropping of the instep, or arches, of the foot, with an everted attitude, causing the weight to fall upon the inside of the foot.

This condition is by no means a new one, nor will I attempt to give you anything new or original. Will endeavor to make this paper a strictly practical one, laying extra stress upon the points of most importance.

While there has been much said of this condition, there has been but little done, or but little properly done, as weak-foot is decidedly on the increase. It is stated by some investigators that three out of every five persons are so affected. There are many practitioners who fail to even think of this condition when examining their patients. On the other hand there are many who make the proper diagnosis, who sadly fail in their treatment. I regret to say that many doctors instruct such patients to go to the corner shoe-store, where they purchase a pair of so-called arch supporters to be worn even before the foot is ready for the proper brace which is moulded and made for that special case. The usual error in diagnosis is that of rheumatism. Many cases of weak-feet, pure and simple, are treated for months and months with the salicylates and other rheumatic measures. Of

course, they grow worse, physically and constitutionally.

Weak-feet can be divided into several classes: The simple weak foot, the flat and rigid weak foot, the traumatic flat foot usually following fracture or a sprain, and the paralytic flat foot, usually following anterior poliomyelitis.

Weak-feet may be complicated by repeated arthritic attacks and the so-called painful heels, which is a bony granulation with a surrounding periostitis at the tubercle of the os calcis.

PATHOLOGY.

According to Whitman, who has made a most extensive study of this subject, the pathology is briefly as follows: Supposing the foot to have been normal before it began to break down, it is evident that persistent deformity could not have been acquired without marked changes in its internal structures. The ligaments on the internal aspect of the foot and of the ankle joint are weak and distended. The unused portions of the articular surfaces of the joints may be denuded of cartilage, while new facets may have been formed to accommodate the changed relations of the bones. For example, the external malleolus may be in direct contact with the os calcis. Evidences of injury and of abnormal pressure may be found in the thickened periosteum, while the internal structures of the bone has been changed in adaptation to the new conditions. The muscles which are no longer used in the leverage function, the plantar flexors and the abductors, have become atrophied, a change that is made evident by the shrunken calf. The muscles on the inner border of the foot have been overstretched, while those of the upper and outer part have become shortened and contracted. By far in the greater portion of cases the pathological changes have not advanced to a stage that interferes with successful treatment.

SYMPTOMS.

For convenience these may be divided into subjective and objective, which vary under the different types of weak feet.

Subjective symptoms are, weakness and pain, which are increased when standing and walking, greatly relieved by rest. The pain begins in the heel and ankle, and is referred to the calf, thigh and back. Damp weather frequently increases the above symptoms.

Objective symptoms are, limitation of motion, especially adduction, with an ungainly, slouchy gait, muscular spasm, stiffness, swelling after long standing, distended veins, and usually the arch has partially or completely disappeared. The most reliable symptom of all in beginning weak foot, is pain

when in use, disappearing under rest or the proper support.

TREATMENT.

We want to shift the weight of the body from the inner border of the foot to the outer. The first step is to break up the adhesions about the foot and ankle joint by forcible stretching, followed by strapping the foot in an over-corrected varus position, after the method described by Gilbey, as was used by him first for sprained ankle, allowing the dressing to remain about five days. This procedure to be repeated until the normal range of motion can be obtained. Except in advanced rigid feet, and paralytic flat feet, this first step will correct the deformity. The extreme rigid foot will necessitate the same manual stretching under general anesthesia, and the application of plaster bandage, extending from the toes to just below the knee, the foot in extreme varus and at right angles. In some cases it is even necessary to cut the tendo-Achilles in addition. This dressing is to remain for three weeks, allowing the patient out of bed the third day, and encouraging him to walk with crutches. The weight of the body will further benefit the correction while in this position by stretching the muscles and ligaments on the outer side of the leg and allowing the inner muscles to contract and resume their normal tone. When this bandage is removed the foot is reduced to its normal attitude, and a plaster cast is taken for a Whitman brace to be made. The plaster bandage is then reapplied in the over-corrected position for another week. Then active massage and stretching is instituted daily, in hot salt water. (I believe the hot-air machine would be beneficial right here.) The patient is allowed to walk only with the brace in the proper shoes. We must remember that the brace does not correct deformity, but merely supports the foot in the correct attitude, and prevents recurrence of the deformity.

While making casts of feet is simple, it requires considerable work, and it is very important work that cannot be trusted to an inexperienced assistant or an instrument-maker. Unless it is done properly, it is absolutely useless. The method is condemned and abandoned as worthless, while we are alone to blame. At least 99 per cent. of the shoes as manufactured at present, fit the eye and not the feet. If it had not been intended that our toes should functionate separately, as well as collectively, they would not have been separated. How many people do you know who have no corns or bunions? The percentage must be extremely low. The improper shoe is to blame in every case. There are a few fairly good shoes made for normal feet.

For the treatment of weak feet, in addition

to the correction of the deformity and the application of the brace, the heel and sole of the shoe should be raised from 1-8 to 1-4 of an inch on the inside, which is an extra aid in shifting the weight to the outer border of the foot. Some beginning cases can be relieved by the adhesive strapping previously mentioned, and the application of the proper shoe, not being sufficiently severe to require the use of the brace.

The paralytic weak foot is treated by open operation, consisting of tendon transplantation and arthrodesis, with the above mentioned brace and shoe to maintain the normal attitude.

CONCLUSIONS.

1. The shoe should be made to fit the foot and not have the foot molded to the so-called stylish shoe.
2. The bad points of the ordinary fashionable shoe are, too narrow across the toe, an outward tendency instead of an inward twist, heel too high and narrow. The shoe should fit the ankle snugly.
3. Children should be trained to walk with the feet parallel instead of being encouraged to turn them out, which is the beginning of the deformity.
4. Early diagnosis and treatment prevents much pain and deformity.
5. Examine your patients' feet as a routine practice.

DISCUSSION.

J. B. Richardson, Jr.: I am very glad of an opportunity to emphasize some of the points brought out by Dr. Owen. As he stated, in dealing with this condition, our attention should be chiefly directed to the prevention of deformity in the beginning. The point made by the essayist in regard to teaching children to "toe in," rather than to assume a more graceful but more harmful attitude, is well taken. We have all seen parents who insisted upon their children walking with their toes turned outward, thereby putting them in position to become deformed about their feet. No person who habitually toes in develops this deformity. Certain races that wear sandals, or go barefooted, all toe in and all have excellent feet.

The point made by the essayist in regard to the toes functioning separately as well as collectively, is also well taken. I doubt whether five per cent of the men present here to-night are wearing shoes that would fit normal feet. The argument usually presented is that they are comfortable and do not hurt the feet. Their feet are deformed, and in most instances have been deformed from infancy up. A shoe to fit the normal foot, should be broad at the toe, allowing them to spread, and the heel should be low. The average shoe of the present-day does not allow any spreading of the toes whatever.

The idea of applying a brace to a rigid foot is so perfectly foolish, when we stop to consider the pathology of the condition, that no one who understands it would think of applying a brace to a foot that had not been rendered limber. In many instances this takes a long time. Patients in whom the os calcis has been dislocated for months expect to be relieved in a short time. This is impossible. Stretching must be practiced for months and months before it can be accomplished.

Some years ago I read a paper on this subject before the medical section of this society, and since then I have treated a number of cases through the kindness of various doctors who have sent them to me. I have found that in private practice these patients are harder to deal with than are clinical cases. The former expect much more rapid results than we are able to accomplish.

The paper is a very good one, and the point to be especially emphasized is that we should wear shoes of the proper shape and fit for the normal foot.

F. T. Fort: I have enjoyed the doctor's paper very much indeed. Flat-foot seems to be a disease of civilization. If we go back to the sculpture, especially that of Hermes, we find that the big toe is absolutely straight and the weight of the body passed through the second toe. Then when we come on down to the gladiators, we find that a strap which held the sandal turned the little toe in, and that caused a slewing of the foot. And so on, up to the present day, when the majority of cases of flat foot are due to ill-fitting shoes, and rickets during childhood. Now it is a hard matter to find a properly fitting shoe.

I believe it is a fact that there are more cases of flat-foot in Germany than in any other country, for the reason that the accoutrement of the German soldier weighs about ninety pounds, and this, added to the weight of the individual, on forced marches, causes an ischaemic condition to develop in the ligaments connecting the tarsal bones, which then give way. I have in my pocket a little brace which I make myself, after the method of Prof. Joachimthal, of Berlin, using acetone and celluloid. It is made to fit the foot and is worn inside the shoe. With this brace a great deal of the pain and discomfort of flat foot can be relieved. Of course, as Dr. Owen has said, to effect a cure the condition must be broken up, but I believe that if we would all think more of the use for which our feet are intended than of beautifying them, we would see a great deal less of this condition.

A. C. L. Perciful: I wish to touch upon just one point; namely, high heels. In my experience I have found that high heels have been one of the most frequent causes of weak feet. Many of these patients who come to us complaining of pain in their feet, have been wearing high heels so long that the tendo achilles has become shortened, and if we have them discontinue high heels

abruptly, lowering the foot from an inch to an inch and a half all at once, the tendo achilles does not give way, but the arch of the foot does, resulting in a great deal of pain. Therefore, when we believe that the condition is due to high heels, their height should be lessened by degrees so that the foot may gradually regain its normal shape.

A. R. Bizot: Dr. Owen stated that changes of the weather increase the pain in this condition. What is the reason for that if they are not of a rheumatoid, or similar nature?

C. H. Harris: I would like to ask Dr. Owen if he means to imply that we should teach our children to walk "pigeon-toed" rather than the way which comes natural to them?

Guy P. Grigsby: So much has been said on this subject that it only remains for me to most heartily indorse everything that Dr. Owen has said in his paper. This is, to my mind, a most important subject, because of the frequency with which we meet with cases of weak feet. Unfortunately, the profession in general does not seem to recognize this fact, and to this is probably due the ignorance, or lack of knowledge of this condition, that we often see displayed in the treatment of these cases. As has been brought out, the incorrect shape of the shoe is often the direct cause of flat foot, in connection with improperly or tightly fitting socks or stockings, causing a faulty attitude of the foot.

One point that I would like to emphasize is the occurrence of flat foot in childhood, often in very early childhood. These cases are frequently overlooked, or neglected, and the child goes through a period of pain and discomfort and ends up with a broken arch, causing a faulty gait—the typical, stiff, flat-footed walk. I am sure that every physician here has had parents bring their children to him complaining that they were so dreadfully "pigeon-toed." These cases should make us at once suspicious of the possibility of weak feet. Almost invariably this is an attempt on the part of Nature to make the child assume a more correct attitude in walking, and you will find that as soon as you relieve the strain on the arch of the foot, the "pigeon-toes" will correct themselves.

One mistake that is frequently made is the application of braces to rigid feet. This, to my mind, is a mechanical impossibility, simply because the foot is unable to conform to the shape of the brace, no matter how correctly the latter may be made. The foot should first be stretched until it is pliable and can be moved in all directions; then it will conform to shape of the brace when the latter is applied. The brace is not intended as a support; its object is to cause the patient to assume a more correct attitude or gait, in walking. For that reason the brace should be made of some rigid material, so that when the patient abducts the foot or assumes a faulty attitude it will cause him enough pain to make him turn his foot to the

outside. In other words, the brace simply makes him acquire the habit of walking correctly, and when you have accomplished this, you have usually effected a cure. For this reason, braces which are built simply with the idea of giving support to the arch will only serve to relieve the patient while the brace is in position; as soon as it is removed the pain and discomfort returns.

W. C. Dugan: I wish to indorse everything that Dr. Owen has said, and to emphasize the importance of correcting this condition thoroughly. If adhesions are present, they should be broken up, under an anesthetic if necessary. Then put the foot in a brace and keep the patient at rest until resolution has taken place. This is a condition which deserves more attention than is usually given it.

B. J. O'Connor: In my experience I have not encountered many rigid flat feet, unless there has existed some inflammatory condition. It looks hardly reasonable that a foot would become rigid unless a good many years had elapsed since the condition began. The average case of flat foot that we see has been of shorter duration, and is usually due to circumstances such as outlined by Dr. Foot, carrying heavy weights, etc. Furthermore, the muscles are very much weakened by prolonged illness of any kind. I myself suffered with flat feet following an attack of typhoid, and I noticed especially that, after any sudden strain, such as in stepping off cars, etc., my feet would be tender for a week or so.

The mechanical principles outlined by Dr. Grigsby should be borne in mind. Very few general practitioners possess the necessary mechanical skill to properly fit a brace. In the average case, however, I believe a great deal of good can be accomplished if the physician will instruct the patient to extend and flex the foot, giving it about twenty minutes exercise each night and morning. If this is kept up for some time, together with proper mechanics in walking, it will strengthen the tendons and ligaments and a good result will be obtained in the majority of cases.

C. W. Hibbitt: Flat feet formerly kept a good many men out of the army in this country, but they are now permitted to enlist, and particular attention is paid to the shoe that is issued by the Government. It is very broad at the toe, with a very low heel, and the men are instructed at the beginning of their service to walk on their toes, pressing their toes forward and pointing them down. This gradually teaches them to walk properly. One surgeon in particular has taken up this question of weak feet, and has suggested that the feet of each man enlisting in the army be measured, and a properly fitting shoe supplied, instead of making a large number of shoes of various sizes and issuing them more or less promiscuously as is now done.

John Karagiozian: We do not see flat feet in my country. There we do not have high heels, and every part of the foot is exercised and the

muscles developed. We have trouble in shaping the heads and you people have trouble in shaping the feet. In my country they think an egg-shaped head is wrong, and when the head is still tender the mid-wives begin to shape it, and when they have ceased the back of the head is generally flat. I do not think you can change the fashion, but you might tell your patients to use their feet sometimes without shoes. Of course, if they are short they like to have high heels to make them look a couple of inches higher. Outside of this I do not see any use for high heels; they are always injurious.

Louis Frank: I would like to ask Dr. Owen what is the percentage of flat feet in women as compared with men. The shoes worn by women of the present day are notoriously ill-fitting and badly shaped, and this is particularly true of fashionable women; still it is my impression that flat foot is not of frequent occurrence in the female sex; certainly, I have seen but few, if any, cases in women.

Edgar W. Stokes: I would like to ask Dr. Owen what success he has met with in teaching children to "toe in"?

W. Barnett Owen, (Closing): First I want to bring out one point that was overlooked in the paper; namely, diagnosis by inspection. I think the mistake is often made of simply looking at a foot and saying that the patient has a good arch, when, if we would test that foot out in different directions, adduction, flexion and extension, we would find limitation of motion and pain, especially upon adduction. Furthermore, upon going into the history, we will usually find that the patient has experienced pain while standing or walking, which was relieved by a period of rest.

As an illustration of how hard it is to induce patients to wear properly fitting shoes, I will mention one case in a young lady, who had the middle toe crowded in between the adjoining toes, or so-called hammer-toe, as the result of the high-heeled, narrow-toed shoes she had been wearing. First I tried to straighten this toe out and think I would have succeeded if I had had the cooperation of the patient in wearing a properly fitting shoe, but to do this she would have had to wear a shoe three or four sizes larger than the one she was wearing, and rather than do this she preferred to sacrifice the toe, which was amputated. The same condition prevailed on the other foot and was treated in the same manner. This case illustrates how difficult it is to induce some of these patients to wear shoes that are comfortable.

In regard to lowering the heels, I do not mention this to the patient because I do not think it is the first step to be taken in the treatment of this condition. The first thing to do, in my opinion, is to support the weak instep, turning the foot in and strapping it in the method described in the paper. Then when the heel is lowered, the patient does not experience the pain mentioned

by Dr. Percell from contraction of the heel cord.

In regard to instructing children to walk "pigeon-toes," as brought out by Dr. Harris, I think this is preferable to the so-called "slew-foot." However, it is not necessary for them to walk "pigeon-toed"; I do not think it would be a hard matter to train them to walk with the feet parallel. On the contrary, however, they are taught at dancing-school to turn the feet out, and they grow up with the idea that this is the proper way to walk.

The device shown by Dr. Font, which is really a plate rather than a brace, is quite an ingenious idea, although I do not believe it would result in any permanent benefit because, in the first place, it would not hold the foot in any particular position. The patient could abduct the foot with the brace on as easily as the could without it. The brace devised by Whisman is really a brace and not a plate. It takes hold of the joint in the weakest portion and holds it in the proper attitude.

As to the question of flat foot following typhoid fever, I do not believe these are typical cases of weak feet; it is general weakness, with contraction of the heel cord which results from lying in bed for such a long period of time.

As to the proportion of weak feet in regard to sex, statistics show that they are about evenly divided. While it is natural to assume that, because of the extremely faulty attitude resulting from the small and ill-shaped shoes which women of the present day wear, that we would find a much greater percentage of deformed and weak feet in women than in men, I do not believe that such is the case. From the statistics on the subject and from my own limited experience, I have found that as a rule, the class of women who wear this style of shoe are not required to assume a standing posture for prolonged periods; they are willing to sacrifice comfort for the sake of appearances for an hour or two, knowing that they can then go home and don more comfortable footgear. This is not true of many women of the working class, as an example of which I will mention the case of a young girl whom I saw some years ago. She was employed in a department store and was on her feet from eight o'clock in the morning until five-thirty in the afternoon. She had been treated for two years for rheumatism, had been constantly losing weight, was almost a nervous wreck. The calves of the legs had greatly atrophied, and the muscles of the feet were almost gone—a typical case of weak feet. The method of treatment described in the paper was carried out for nearly a year, and at the end of that time she had gained in weight, was relieved of all pain, and has remained well ever since.

In all cases of weak feet, properly treated, a favorable prognosis can be promised.

CLINICAL CASES.

FOREIGN BODY (BOTTLE) IN RECTUM; EXHIBITION OF SPECIMEN AND REPORT OF CASE.

By BERNARD ASMAN, Louisville.

In the latter part of October, 1911, Dr. D. D. Worden telephoned me that he had a case which presented some rather unusual features, and which he desired to refer to me. The history he had obtained was as follows:

Patient a male, age 35, laborer. Had been healthy all his life with the exception of some rectal trouble. On the day previous to the day he consulted the doctor, a fellow laborer had given him a bottle, containing some medicine, with instructions to pour it into his rectum for the purpose of curing his piles. He said that he had gotten down on his hands and knees and inserted the neck of the bottle, desiring to get the medicine as high up in the rectum as possible, he continued to push the bottle up through the sphincter. When the medicine began to escape it burned him to such an extent that he jumped, at which the entire bottle slipped into his rectum and beyond his grasp.

Dr. Worden stated that, with the forefinger inserted into the rectum, he was able to just touch the bottom of the bottle.

The man was sent to the infirmary where I saw him, and after an examination I ordered him prepared for both an anal and an abdominal operation, not knowing which would be necessary in order to get the bottle out of the rectum, but preferring, of course, to get it out by the anal route if possible. The patient was anesthetized. Upon stretching the sphincter muscle as far as possible without rupturing it, I at once saw that it would be impossible to reach up into the bowel, get hold of the bottle and withdraw it, and that to remove the bottle by the anal route would necessitate cutting the sphincter. Some authorities advise that in such cases the rectum be laid open in the posterior median line, down to the cecum; some even recommend the removal of the cecum in order to get more room; or the splitting of the muscle both anteriorly and posteriorly in order to make possible the introduction of the hand. I believed, however, and I am now more than ever convinced, that if the sphincter must be severed it should be cut squarely across and in the transverse anal line, not antero-posteriorly. In my opinion we can secure better union of the severed ends when it is cut in this way. Accordingly the sphincter was divided with one sweep of the knife, the incision being carried to the tuberosity of the ischium on the left side. This gave me sufficient room to in-

troduce my entire hand. The severed ends of the mucous membrane were held with small clamps, which served as retractors and prevented any great amount of hemorrhage, and the cavity itself was packed with gauze. The bottle was found firmly wedged in the bowel, above the uppermost valve of Houston, and the swelling and oedema of the tissues about it were so great that it could hardly be moved. Introducing my hand well up into the bowel I succeeded after some effort in getting a firm hold with my fingers and thumb, upon the end of the bottle and, by pulling as hard as I could, I was able finally to withdraw it. The bottle was full of soft fecal material and, following its withdrawal, there was a great gush of fecal matter from the bowel. This, of course, contaminated the wound, yet I felt that this was better than to have opened the abdomen. After thoroughly cleansing the wound by irrigation, it was carefully closed with several layers of sutures, and the severed ends of the sphincter were then brought into close apposition with sutures. The mucous membrane and the external skin were likewise brought together with sutures. A gauze wick was inserted for drainage, believing that, in view of the fact that the wound had been contaminated by this great gush of fecal matter, we could not reasonably expect union by first intention. The man was put to bed and had little or no elevation of temperature. In a few days he was allowed to get up and at the end of three weeks he went home, at which time he stated, in response to our inquiries, that he had just about as good bowel control as he ever had, but upon pressing him he admitted that his sphincteric action was not perfect. Of course perfect union of the muscle under such conditions could not have been expected. The weak place in the sphincter could be felt by gentle pressure, but he had good contraction of the other muscles and fair control. I think possibly a secondary operation will be necessary in order to get perfect results.

I have here a picture, made 14 or 15 days after the operation, which plainly shows the healed line of incision, although in retouching the picture the photographer has made the line appear much broader than it really was.

The bottle, which is also herewith presented, is seen to be quite large, and it is on this account that I am reporting the case. It is a "Welch's Grape Juice" bottle, and in its greatest circumference measures about 7 inches.

One question of interest is as to why this man inserted the bottle into his rectum. In citing the history of the case I gave simply the reason stated by the patient. It is well known that a certain class of sexual perverts

resort to the introduction of foreign bodies into the rectum for the excitation of passion. This case however, apparently, does not belong to that class.

DISCUSSION.

Granville S. Hanes: Many and varied reasons have been given for the introduction of foreign bodies into the rectum. One of the most frequent, I believe, is sexual perversion. Also, a good many foreign bodies are introduced because of pathological conditions in the rectum. I do not doubt that this man introduced the bottle for the reason he stated; at any rate, it is a very good story.

Objects are sometimes introduced into the rectum for the purpose of concealment. There is a very interesting report of a Frenchman, who was sentenced to prison, and having time to make some preparation, he took a little box, covered with the omentum of a sheep, and placed in it files, saws, etc., which he introduced into his rectum. While in prison he very naturally contracted peritonitis and died. This box was removed and these objects found in it.

I think that this bottle could not have extended very far up in the bowel, but it is astonishing how foreign bodies will sometimes ascend high up in the gut. Some have said that this is due to reverse peristalsis, but I believe that they simply follow the line of least resistance and, on account of the motions of the body, gradually travel upward into the bowel.

The literature simply teems with reports of these cases. One report concerns a monk, who once had the colic, and some friend introduced the neck of a bottle into his rectum, the bottom having been broken out for the purpose of introducing some medicine. The bottle passed up into the bowel; and, their method of removing it was a very good one I think. They simply had a little boy introduce his hand into the rectum, grasp the bottle and withdraw it.

The rectum has also been used as a part of the anatomy upon which to play practical jokes. Dr. Combs, of Indianapolis, in 1909, reported a case in which a man who had been drinking, went out into the forest near a railroad, laid down, and fell asleep. It is supposed some one passing by saw this man lying there drunk, introduced a beer glass into his rectum. In order to remove it the glass was broken and all the particles removed. To do this an incision was made through the posterior anal commissure. The wound healed and it was reported that the patient had complete control of his bowel.

Dr. Cook, of Nashville, reported a very interesting case, in which a little child, while playing with a dog, became conjugated, and quite a lot of trouble was caused. The anal muscles were lacerated and necessitated an operation, with good results.

In removing foreign bodies from the rectum

I believe there is one point that we all fail to thoroughly appreciate and that is the degree of distensibility of the anal muscles. They are very elastic and any object that has been introduced by any reasonable force can, in my opinion, be removed without incision of the muscles if sufficient time is employed to effect complete relaxation. When the object has passed up into the bowel and there is great oedema another complication is added which merits other considerations. If, however, the object can be easily reached with forceps, gauze can be pushed over the slick surface, which will make a secure hold for the forceps and then the foreign body removed.

Bernard Asman, (Closing): Of course, a case of this kind suggests a great many others that are found recorded in medical literature, some of which might be interesting to relate if time permitted. One in particular that is suggested to me, is reported in many of the books on diseases of the rectum, in which a man conceived the idea that if he blocked up the rectum after defecation, he would require less food to sustain life, and thus be able to get along without eating so often and so much.

As to the rectum being used as a butt for practical jokes, one is reminded of the famous Marchetti case, in which a pig's tail was introduced into a woman's rectum by a body of students, the bristles in the tail having been first cut short so that they would engage the mucous membrane. The tail was introduced with the bristles pointing downwards, and when an attempt was made to pull it out the result can readily be imagined. Its removal was accomplished in a very ingenious way. A string was tied to the end of the tail and a hollow reed was slipped over the string and over the pig-tail for its entire length, thus dislodging the bristles that were imbedded in the mucous membrane, after which its removal was an easy matter.

I am rather doubtful of the possibility of reverse peristalsis being responsible for the fact that these foreign bodies are sometimes carried high up in the bowel. It is more likely due to the movements of the body coupled with the fact that the bowel is not a smooth, straight tube.

When the object is of glass the greatest care must be taken that it be not broken in the bowel, because the sharp fragments would result in severe laceration of the mucous membrane if not the entire thickness of the bowel wall, thus causing severe hemorrhage which would be difficult to control. If high up the peritoneal cavity might be penetrated and the consequent infection would be serious if not fatal. A number of fatal cases of this kind have been reported.

While the anal sphincter may be stretched to a much greater degree perhaps than is generally supposed, the fact must not be overlooked that there is a certain well-defined limit to its distensibility and if forcible division is persist-

ed in after this point has been reached irreparable damage will be done, because of the tearing apart or rupture of its fibres, thus resulting in partial or complete loss of function. It is clear that the sphincter must be distended considerably more in the removal of a large object than required in its introduction for the reason that added room must be provided for the operator's fingers or instruments necessarily required to grasp the object, whereas in its introduction the force was applied from the outside.

Rather than risk rupturing the muscle it is much better, in my opinion, before lessening its tone by overstretching, to sever it completely at one point, because a severed sphincter can be easily repaired, if proper attention is given to the prevention of infection of the wound, and perfect function preserved.

HYDRAMNIOS; REPORT OF CASE.

By L. P. DURRETT, Louisville.

On April 7th, 1911, I was called to see Mrs. L., who was having labor pains about every ten minutes, continuing every five or ten minutes apart. Made examination but could not make out anything on digital examination. Patient complained that examination gave her severe pain. The pains continued for 24 hours. Liquor amni expelled with each pain. On the morning of the 8th the pains lessened, I left patient. On the next day, the 9th, she was up and doing her housework, and continued to be up and about until the 15th. About nine o'clock in the morning. Pains continued all day, every three to five minutes apart. With each pain there was a free discharge of liquor amni; kidneys acting freely. There was enough liquor amni discharged to cause patient to change her gown three times, also pads on bed. About half-past ten that night, the patient became very nervous, spasmodic condition of her legs, which jerked like those of a jumping-jack. All of a sudden, patient complained of seeing snakes on left side of bed, and tried to brush them away. Had a wild delirious expression which lasted for an hour and a half, and did not improve until she had taken two drams of sodium bromide and two grains of denatured opium, which were given an hour apart, one dram and one grain of each.

On the morning of the 16th patient went to sleep and rested easy until five o'clock, when the pains came on again, lasting until eleven o'clock. On digital examination during this period of labor, the walls of the vagina were very much swollen and there was some difficulty in introducing the finger, as there seemed to be rolls of mucous membrane in the way. The os during all this time, dilated about the size of a half dollar, and you could feel the fetal head, which could be easily pushed up

out of the way. The patient would say, "I can feel you move the child." I left patient about eleven o'clock, April 16th, having pains very slight in character. Gave a dose of sodium bromide and opium. Called to see patient about five o'clock the same day and found her resting easy.

I asked if the kidneys had acted, and she said no. While I was there she passed about a pint of urine. While up she had pain and there was more liquor amni discharged. Made examination and could not find fetal head. I left and directed that patient be given 1-4 grain of morphine every hour until she slept. Patient had a good night. Was called on the 23rd, about seven o'clock, and found her having pains every three to five minutes apart. Upon examination found os dilated to about the size of a half dollar. Head presentation, which was very easy to move. Liquor amni continued to be discharged with each pain, during the night and the next day. Left patient on April 24th at nine o'clock, with instructions to take 1-4 grain of morphine every hour. Three doses were taken and patient rested easy all night. On April 25th found patient resting easy; no discharge. Complained of some abdominal soreness. Upon examination could not make out position of child. Abdomen flat and abdominal muscles flabby. Patient said she felt as if she had been delivered of her child. On April 29th, about nine o'clock, found patient in pain. Liquor amni escaping with each pain. This lasted until may 1st, at two o'clock, when the child was born. Head presentation, average child in size, being the 16th child, at full term, as twins had been born to this mother three times. Violent hemorrhage ensued, which was controlled by kneading the uterus and giving ergot. Placenta slow in coming away. Patient was very weak from loss of blood, and continued ergot and digitalis for twenty-four hours.

Patient and child got along nicely after this long siege of suffering. Mother and child doing nicely and mother returned to her housework on May 14th, and got along very well until May 23rd, when she developed mastitis which was such a severe attack that she was confined to her bed. It yielded to ichthyol ointment and hot applications by May 30. On June 3rd patient developed an attack of vomiting and diarrhoea, which lasted about twelve hours, when it was controlled. On June 4th patient had a quiet day and seemed to be getting along nicely. The night of the 4th, about one o'clock, she asked to be helped to the vessel, which was done, and she slid from the vessel onto the floor and was soon a corpse.

SUPRA PUBIC PROSTATECTOMY; WITH PRESENTATION OF PA- TIENT AND SPECIMEN.

By GEO. H. DAY, Louisville.

In comparison, the statistics of the two operations of prostatectomy rather tend to impress that the perineal is the method of choice, and granting that Young's mortality is 4 per cent. while that of Frayed is 7, the question arises: why this difference of 5 per cent.?

In reading Young's Case Reports, you are promptly impressed with Young the man, for his attention to detail, his preparation of his patient, his beautiful surgery, condition of patient on leaving the table, and then *his after treatment*.

In Freyer's reports he rolls off the cases by the hundreds, describing his operation very minutely, going extensively into the pathology of the gland, but strange enough, rarely mentions preparation or after treatment.

Young is the mechanic, the artist,—the Belasco, as it were—of surgery, while Freyer might be called simply the operator. Freyer's after treatment consists of inserting a rubber tubing 7-8 of an inch in diameter into the suprapubic opening, covering the tube and abdomen with absorbent cotton, allowing the cotton to absorb the over-flow. All of you know how that patient looks in a few hours,—literally floating in urine, which, aside from making the patient very uncomfortable, also tends to keep a couple of nurses occupied changing dressings, bed linen, clothing, and still *no drainage*. Freyer has never published anything as to a complete plan of drainage. True, he has advised a goose-necked shaped glass tubing to fit into his drainage tube, but which on all occasions has proven to be a miserable failure, because it does not fulfill its purpose, the urine overflowing between tube and abdominal wall, none passing through the tube.

Such an able surgeon as Deaver dismisses drainage with a scant dozen lines, saying in conclusion that the dressings will have to be changed twice daily on account of the over-flow of the urine.

Therefore the question naturally arises: If we could perfect a system of drainage in the supra pubic method, would we reduce the mortality to 5, or even 4 per cent., granting that Young and Wishard, who do the perineal exclusively, do have perfect drainage.

At the last meeting of the Kentucky State Medical Association, Bremerman read a very able article on this subject of post-operative treatment, at which time he described in detail his apparatus for complete drainage of the bladder. I have had the pleasure and good fortune to use a similar apparatus for

the past three years, and I believe that it settles for all time the very unsatisfactory question of bladder drainage. This method of siphonage was first introduced fifteen years ago by Dawbarn, to whom, I believe, most of the credit belongs. A number of others have used it since that time; however, none have introduced, so far as I can find, a solution to the abdominal end of the tubing; in other words, a rubber tubing the same size as the balance of the Dawbarn system, placed in the bladder cavity, is not practical, because the fluid passing down the long arm of the Y causes a very strong vacuum, the tubing is twisted about by this vacuum, and the distal ending is drawn to the wall or floor of the bladder, occluding completely the lumen of the tube. Then it was suggested that a glass irrigating nozzle be introduced into the cavity on the end of the tubing. This procedure had the same fault as the Dawbarn plain tube, always being stopped up by the bladder tissues.

I then tried the following: I secured a piece of fairly heavy one-inch rubber tubing; that is, the lumen is about one inch in diameter; and five inches in length. Very near the vesical end I cut two eyes, large enough for large clots to pass through. To the outer portion I fastened a small rubber catheter, passing from end to end, through which we can pass the different irrigating solutions. At the external opening I have a perforated metal stopper, with a large center opening, through which the small irrigator tubing passes. This opening is small enough to hold the tubing snugly. We then have the large tube acting as a caisson, the bladder contents coming through the eyes of the stationary tubes and being withdrawn by the smaller tube without the lumen being interfered with at all by the vacuum. The amount of siphonage is regulated, of course, by a shut-off on the long arm of the Y, so that just enough fluid passes through, to keep the bladder thoroughly dry. If a continuous irrigation is wanted, an irrigator is fastened to the catheter in situ, the flow is regulated, and can be continued indefinitely.

The above apparatus was used on the following case: Mr. J. H.; age 82; seen first July 13, 1910; family history negative; gonorrhea at the age of 30; has double inguinal hernia; seven years ago had a stroke of paralysis, from which he has never fully recovered; general arterio sclerosis; general condition grave; complete retention of urine for sometime, relieved only by the catheter; bladder very septic; pain severe and constant; sleep hardly possible; urine per catheter showed great quantities of pus and albumen; also excreting power of kidneys greatly decreased; prostate per rectum, large, bilobed.

high up, could not reach the apex, freely movable; patient suffering from acute septic absorption, which, together with his general health and age, made his condition quite serious. Owing to this grave condition the usual preparation was impossible, so that the operation was undertaken despite the great risk.

On July 16, with chloroform anesthesia, we enucleated the prostate in eight minutes and delivered a gland weighing 3 1-2 ounces. Following the removal, we massaged the prostatic cavity for several minutes, finishing the operation with very little hemorrhage.

At this time the patient collapsed; immediately went into deep shock. We started salines intra-venously. He was revived with great difficulty, put to bed in very grave condition. Saline was kept up, with the addition of strychnia, atropia, and digitaline, together with the usual after treatment. He remained in complete shock for several days. We instituted drainage immediately; irrigating solutions regulated; and after some days he rallied nicely. He was up in a chair on the tenth day, walking about some on the fifteenth day; passed sound on the 17th day; some incontinence of urine; supra pubic opening almost closed; left the hospital one week later; 60 days later he reports supra pubic opening all healed; says he is not troubled by any urinary symptoms; gained 20 pounds in weight; walks four miles every day despite his age.

I take pleasure in submitting the patient and specimen for your discussion.

DISCUSSION.

W. B. Owen: Dr. Day's report is so complete and the result so good that very little can be added. I had the pleasure of seeing this case and assisting Dr. Day in the operation. The patient's condition was very grave, being unable to get out of the bed without assistance. We thought he would surely die, but the result, so far, has been most happy. The wound healed up completely and has never re-opened. He has perfect control of his urine being able to hold it all night, and he feels better now than he has for many years.

One thing that I believe helped this patient as much as anything else, was the fact that we gave him a glass of water to drink every hour, in addition to the saline irrigation. This free use of water is recommended by Dr. Eugene Fuller, of New York City. A diuretic is indicated and water is the best. The preparation in this case was not as thorough as could be desired, because we thought that the patient would not live long, as his condition was not being improved under the treatment.

The drainage tube described by Dr. Day certainly does drain. While he has claimed no credit for these modifications, I believe they are original.

F. T. Fort: When we take all these cases of prostatectomy into consideration, I think it is remarkable how much work can be done on these old men and they live through it. A short time ago we operated on an old man whom we thought would die on the table, but he rallied and we were able to complete a suprapubic cystotomy and prostatectomy.

The after treatment which the doctor carried out was all that could be desired, except that I do not understand why he gave strychnia for shock.

The old persons seem to stand operations on the bladder as well as the younger ones; I have never seen one of them die.

TUBERCULOUS TESTICLE; EXHIBITION OF SPECIMEN AND REPORT OF CASE.

By JOHN W. PRICE, JR., Louisville.

The present case is one which I consider of some interest to both physicians and surgeons.

The patient, B. H., is a man 20 years old whose occupation is that of a school teacher in a small town. The patient's father, two brothers and five sisters are living and well. His mother died of erysipelas. There is no history of tuberculosis or tumor, cardiac, renal or nervous diseases in the family. Patient says that he has always been well until the present illness.

The present illness began in July, 1911. While riding horse-back he was thrown against the horn of his saddle and received a contusion of the scrotum. Almost immediately he noticed a swelling of the left testicle, and a week later noticed a swelling within the scrotum, which has remained constantly except for one week when it decreased in size during rest in bed. During July, August and September, 1911, he suffered almost constantly pain in the left testicle and scrotum. The pain was increased while standing. During these three months he lost about 20 pounds in weight. He was away from his work only one week of this time and does not know if he had any temperature, rather thinks that he did not. Since September he has had very little pain in the testicle, although the swelling of the testicle and scrotum persisted. During the past five months he has regained his lost weight.

On physical examination, we found a well nourished young man with abundance of superficial fat. Examination of the chest and abdomen shows the contained organs to be normal. Examination of the scrotum shows on the left side a heavy elastic, fluctuating pyriform tumor, which is dull on percussion. The overlying skin is freely movable, and the scrotum hangs away from the thigh. An en-

larged, slightly tender testicle is also palpated. The following diagnosis was made: A hydrocele with either an inflammatory (tubercular) or malignant disease of the testicle.

An operation was decided upon and a two-inch incision was made over the left side of the scrotum below the external ring. The hydrocele was found and the testicle appeared hard, inflated now to twice its normal size, and is densely adherent to the scrotum tissue, the tunica vaginalis contained milium tubercles. The cord is ligated with number 2 chr. cat-gut and the testicle removed. A strip of gauze is inserted in the scrotum and the incision closed up to the upper angle.

Tuberculosis usually attacks the epididymis primarily with the formation of one or more nodules which soften and discharge pus. It develops painlessly, and is usually bilateral. In infants, tuberculosis affects by preference, the body of the testis; it may have a subacute onset, appearing first as a hydrocele or a tender swollen testis. In making a diagnosis of tuberculosis of the testicle, we must consider syphilis and malignant tumors.

Gonorrhea of the testicle is sometimes symmetrical, usually bosselated or rigid, painless, densely hard, often bilateral, associated with moderate hydrocele, persisting for months; its growth is at first rapid and then slow. The cord is not involved. The history and associated symptoms of syphilis, the absence of inflammatory phenomena and therapeutic test confirm the diagnosis.

Malignant tumors of the testicle are usually either soft carcinoma or mixed sarcoma, which begin with trauma. There is usually a symmetrical and comparatively painless enlargement of the testis occurring in a few weeks or months after traumatism. The diagnosis must be made by incision and microscopic examination.

Through the courtesy of Dr. Leon K. Baldauf, we are able to show you microscopic sections of the testicle which we removed, and gross specimens of tuberculosis of the testicle, gonorrhea of the testicle, and round cell sarcoma of the testicle.

PATHOLOGIC REPORT ON SPECIMENS, BY L. K.

BALDAUF.

Specimen consists of a testicle opened, a portion of the cord and the tunica vaginalis. Over the entire tunica vaginalis were numbers of small milium nodules about 1 mm. in diameter. They were rather translucent in appearance. The portion of cord removed was distinctly infiltrated but showed no nodules. The testicle showed in lower pole a large caseous area distinctly yellow, and measuring 1 1/2 cm. in diameter. Surrounding this caseous mass there was an area of hyperaemia and marked infiltration of surrounding tissue.

Microscopically a number of new-formed blood vessels were visible and a mass of firm granulation tissue could be seen surrounding the area of caseation.

Macroscopic Diagnosis: Solitary tubule of testicle, tuberculous granulation tissue, milium tubercles tunica vaginalis, hydrocele.

Microscopic Examination: Portion of testicle outside caseous area examined microscopically.

The entire section is infiltrated with a number of splenoidal, polyhedral, plasma and round cells. This collection of cells is most marked in region of blood vessels and around some of remains of tubules. There is a distinct collection of new-formed blood vessels fibroblasts and rather old, connecting tissue. The old blood vessels show a marked endarteritis; the tubules are almost obliterated. The section shows the peculiar granulation tissue which is so often seen in this infection of the tissue.

Microscopic Diagnosis: Granulation tissue of tubercular origin.

DISCUSSION.

W. C. Dugan: At one time tuberculosis was regarded as a general rather than a local condition, but the profession has now come to recognize the fact that we may have surgical, or localized tuberculosis. The doctor has very graphically described tuberculosis of the testes, which usually begins as a painless nodule and is most frequently detected by accident. Later it becomes attached to the skin, softens, and begins to discharge, not pus, but a purulent material, or a tuberculous, cheesy material. The condition is usually chronic, but I have seen a number of cases that were very acute. I remember one that was as acute as any gonorrheal epididymitis I have ever seen. The patient was seized with a hard chill, the testicle swelled very rapidly, and within twelve hours after the initial chill it was several times its normal size. When the testicle was removed it was found to be studded with milium tubercles, the tunica vaginalis being also involved.

The idea has prevailed that we should take out the entire epididymis in these cases. Some of you will remember the specimens which I exhibited to this society a year or two ago. If one of those cases I did not take out the epididymis down to the bladder, notwithstanding the fact that the entire epididymis seemed to be involved. It was treated by the open method. The patient had emaciated until he was a mere shadow. He had a double testicular tuberculosis as a result of trauma. I did a double castration, and he made a complete recovery. He weighs more now than he ever did, and is apparently entirely free of any tubercular trouble.

The other two cases, reported at the same

time, I am glad to say, also made good recoveries.

I wish to indorse what Dr. Price has said in regard to complete castration in these cases. I do not believe that simple removal of the cheesy mass, as recommended by some men, meets the indications, and the same is true of vasectomy. The entire testicle should be removed, because it is absolutely of no service.

I would like to ask Dr. Price whether he has ever seen a case of acute miliary tuberculosis of the testicle?

Jo. W. Price: No, sir; I have not.

DEPARTMENT OF BACTERIOLOGY AND PATHOLOGY.

By EDWARD F. HORINE, Louisville.

(CONTINUED FROM MARCH 15, ISSUE.)

IV.

The Value of the Leucocyte Count in Acute Surgical Diseases; H. W. Hewitt, Detroit, Mich., Ann. Surg., XI, 1911-LIV, No. 6.

In acute surgical conditions the leucocyte count is of great value when considered in conjunction with the differential count. Formerly only total counts were made, but when made they alone were not of any great value. Of course it is understood that the clinical signs and symptoms must be considered conjointly with the laboratory findings.

Hewitt believes that, (1) The total count is an index of the patient's resistance to the infecting organism.

(2) The relative polymorphonuclear count is an index of the degree of, or severity of, the infection.

(3). If we have a relative polymorphonuclear count ranging between 75 per cent. and 80 per cent., infection is probable; if between 80 per cent. and 85 per cent., infection is usually found; if above 85 per cent., infection is almost invariably encountered, and this is regardless of the total number of leucocytes. In fact, some laboratory workers do not make use of the total count at all, but depend for diagnosis entirely upon the differential count.

Hewitt studied 100 cases of acute infections. He believes that when the polymorphonuclear neutrophile percentage is between 65 and 80 percent, the presence of infection through the count *per se* cannot be stated with any degree of accuracy. In acute inflammatory disease, in the pelvis, the polymorphonuclear counts are low; in the appendiceal region, the counts are higher; in the upper abdomen, both the total and polymorphonuclear counts are highest.

As is well known, the duration of the infection must be taken into consideration, since

infections, when of long duration, frequently overcome the patient's resistance and so vitiate the value of the count.

In differential diagnosis the negative value of the count is quite often of importance.

V.

Wright's Stain for Blood.

While Wright's stain has been in use for years, I desire to call the attention of the general practitioner to the ease with which this stain can be used in blood examinations. For differential blood counts, the busy physician needs a stain which requires no previous preparation of the blood film and which will stain rapidly and evenly. Wright's stain apparently meets these requirements perfectly.

Wright's stain (more properly "Wright's modification of Leishman's method") depends for its staining qualities upon eosinate of methylene-blue and eosinate of methylene-azure. It is possible to make this stain in the laboratory from methylene blue and eosin, but it is better to buy either the dry stain or the stain in solution. Precipitation will occur unless the bottle of stain is kept well stoppered. This precipitation is the result of the evaporation of the methyl alcohol with which the dry stain is mixed.

In using Wright's stain, the blood films should not be older than a few hours. The best results are apparently obtained when the films are stained before the lapse of two hours. Specimens weeks old do not stain well, and specimens months old stain very poorly.

The following method of using this stain has given excellent results with fresh specimens:

1. Cover the dried film of blood, which has not been previously treated in any manner, with a *noted* quantity of stain. Allow the undiluted stain to act for one minute.

2. Add to the stain on the film the *same quantity of distilled water* and allow to remain for three or four minutes. If the stain is allowed to act longer than four minutes a precipitate may result. The quantity of fluid on the specimen should not be so great that some of it runs off.

3. Wash in *distilled water* for 5 to 20 seconds or until the thinner portions assume a pinkish color. If the film has been spread too thickly at any point, this portion will present a greenish color.

4. Dry quickly between pieces of filter paper. It is very necessary that this drying be rapidly accomplished otherwise decolorization will occur.

5. Mount in balsam.

In properly stained specimens the polymorphonuclear neutrophilic leucocytes present dark blue nuclei and granules of a lilac

color with neutrophilic cytoplasm. The lymphocytes have dark blue or purplish-blue nuclei and light blue cytoplasm. The nuclei of the small lymphocytes stain more deeply than the nuclei of the large lymphocytes. At times a few blue granules (basophilic granulation) are observed in the cytoplasm of the lymphocytes, but occasionally red granules (acidophilic granulation) may be observed. The eosinophiles have blue nuclei with coarse granules of a bright red color and a bluish cytoplasm. Basophiles show usually a lilac nucleus with dark blue granules and a pale blue cytoplasm. The erythrocytes appear either pink or orange with stippling, if any is present, well brought out. Nucleated red cells present blue nuclei and cytoplasm which is slightly tinged with blue. Blood-platelets appear as rounded or rod shaped blue bodies with lilac granules. The processes of the platelets take a faint lilac stain. Myelocytes have darkly stained nuclei and bluish cytoplasm, with granules either lilac or dark-red in color depending upon the type of myelocyte. The malarial parasites show a blue body with one or more bright red nuclear structures (chromation). The age of the malarial organism seems to govern the exact color of the chromation.

One point which I recently noted is the fact that specimens stained by Wright's method begin to fade after one or two years. The nucleus of the leucocytes, which is at first usually dark blue, gradually fades becoming paler and paler in color. In addition the erythrocytes lose the bright pink or orange color and become a dirty pink or orange.

BOOK REVIEWS

Review of Niles' Work on Pellagra.—Pellagra, by George M. Niles, M. D., Professor of Gastroenterology and Therapeutics in the Atlanta School of Medicine, Atlanta, Georgia. Octavo of 253 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$3.00 net.

A few years ago there were not a dozen physicians in the South who gave Pellagra a serious thought. Certainly there was none who devoted any of his time to devising means of treating and combatting it. But to-day every physician, not only of the South but of the entire country, is necessarily vitally interested in this dreaded disease. Because of this nation-wide interest, because pellagra threatens to become a national if not an international calamity, every practitioner should have close at hand a copy of this new work by Dr. Niles. It is the first book on the subject by an American author and is the first book in any language adequately covering treatment. And it does cover treatment adequately.

Every phase is considered: Dietetic, hygienic, hydro-therapeutic and medicinal.

The medical profession is indebted to Dr. Niles for this work. With it any medical man can place himself right in touch with the latest advances concerning this disease.

Diagnosis is presented in such a definite way that every case of pellagra can be readily recognized. This is especially so because Dr. Niles has taken great care to describe all the clinical manifestations of pellagra, thus preparing the general practitioner for any of the many complications commonly occurring.

As to be expected in all former works on pellagra, being by foreign authors, etiology and pathology has been presented only from the European side. Dr. Niles, however, not only presents the European views but also the newest theories and opinions of leading American authorities. The etiology is especially complete, all theories being presented impartially.

To sum up, Dr. Niles' book tells you definitely how to diagnose pellagra, how to recognize it when you meet it. It tells you the newest and best ways of treating pellagra. It tells you how to prevent its occurrence—how to combat its spread. It tells you all you want to know in connection with this disease. It certainly is a book every practitioner, particularly every practitioner in the South, should have and consult. We strongly recommend its purchase and use.

A Treatise on Tumors. For the use of Physicians and Surgeons. By Arthur E. Hertzler, M. D., of Kansas City, Mo., Assistant Professor of Surgery in the University of Kansas. Octavo. 728 pages, with 538 illustrations and 8 plates. Cloth, \$7.00, net; half Persian morocco, gilt top de luxe, \$9.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

Approximately one-fourth of all surgical literature is devoted to tumors. This fact alone conveys some idea of the magnitude and importance of the subject, and should impress on the busy physician, surgeon and specialist the impossibility of even beginning to read this vast mass and the great difficulty of finding therein any particular information for which he may be in search. In the volume at hand, Dr. Hertzler has presented, in such proportion as his duties as teacher and consultant have shown to be most advisable, the experience of many years gained in the operating-room, the observations of laboratory study, and the information gathered from the literature. To make his volume one of maximum utility he has, in presenting the subject kept in mind the application of both the scientific viewpoint and clinical observation. The practical aspects have received strong emphasis. The volume is one which brings the general practitioner and surgeon into co-operation. It is sumptuously illustrated with original engravings and plates.

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NO. 9

EDITORIAL

NAME THE BABIES.

During the first year of the operation of the Vital Statistics Law the chief difficulty to registrars in handling birth certificates was the matter of the babies' names. Without this the document is legal enough as far as it goes but not clear as to which child made its advent at such a time, and some injury may be worked in the future by this omission. We believe physicians hold the balance of power at this point and by studied effort can so educate and influence people that in a few years no Kentucky baby will be nameless longer than ten days. The doctor, particularly the family doctor—God bless him—holds the place of counselor and comforter in the homes of his patients. His coming brings assurance and his words are listened to with confidence from the oldest to the youngest in the household. We have in mind one of this type who joyfully tells the mother that if she does not select the name by his next visit, he will register the infant as "Peggy" or a similar unattractive name. This usually results in a prompt compliance with his request for a speedy settlement of this momentous question. And it is usually a momentous question, especially with the firstborn. If, however, it is explained that the Bureau of Vital Statistics is "Kentucky's Big Family Bible" and that this certificate with the baby's name inserted will become a legal record preserved by the State, insuring proof of its legitimacy, its age, its color and other vital facts on our record which have been overlooked for so long that we have to be reminded of the fact that as far as a legal record is concerned our forefathers were illegitimates and probably of variegated colors.

There can be no opposition to the operation

of this law if the doctors of the State will 'hit the nail on the head' with a few well-directed blows, which show that family history and future welfare of the child are at stake in getting a complete record of this event.

Will the doctors of the State, therefore, insist that babies be named at once and in all cases where they are forewarned of the coming event will they request the parents to select two names so that the baby may be labeled on the spot.

ENFORCEMENT OF HEALTH LAWS.

We republish an editorial from the *Courier-Journal*, of April 16th, which we feel sure will be of interest to all of our readers:

"A committee from the Lexington Board of Health recently made a trip to the East for the study of advanced methods of sanitation. In the course of the journey members of the committee secured copies of health ordinances in numerous cities with a view to the final preparation of a health code 'written out of the best of the experiences elsewhere and in full harmony with the State statutes to which city ordinances must comply.'

"The committee in its formal report makes the sensible observation that 'to the extent that the work of the health department is constructive, practical and considerate of the rights of the trade or individuals, with full fairness to all, just to such an extent is a firm basis established for putting the purposes of the law into effect.' The report adds:

"Every citizen is entitled to pure air, pure water, pure food and surroundings free from disease, and no dairyman, meat dealer or other food purveyor, tenement owner, factory-operator, corporation or individual is privileged to infringe in any manner upon these vital rights of the general public. On

the other hand, if the laws are practical and enforced with intelligence and fairness alike to all, there is no interest or individual, city or community that will not profit in money, greater labor efficiency, health and contentment, through the observance of those rules that are known to protect and promote the public health.'

"This is a very accurate and conservative summary of the problem of the enforcement of health laws. A committee which takes such a common sense view of the duty of a health department to the public and to the individual may be safely entrusted to the work of preparing a sanitary code. It is certainly true that practical health laws are for the benefit of all. There are some 'interests' which do not seem to understand this and there are others which, for reasons of their own, do not want to understand it. As between these classes and the general 'vital rights of the general public' the conscientious health officer should give the public the benefit of the doubt if he finds occasion for any hesitation in the performance of his duties."

HEALTH AND THE COUNCIL.

An editorial from the *Herald*, of the 19th inst., is published not only because of its real value but to show the great work being accomplished by the newspapers of Louisville:

"Wednesday night's session of the City Council was about as unsatisfactory an affair as could well be imagined. As had been foreshadowed by previous expressions of stupidity and unwarranted obdurateness, the Board of Aldermen flatly refused to pass the quarantine ordinance as framed by the Health Department. Instead, they included spinal meningitis in a list of diseases named in an old ordinance of several years standing. It had been hoped that two weeks' deliberation, a communication from the Mayor, and pressure by the Commercial Club and various women's organizations, would avail to bring the aldermen around to an intelligent attitude toward the measure. That it did not do so brings nothing but discredit to the board's intelligence and sense of public service.

"If the councilmen concur in the measure passed by the Board of Aldermen, the needs of the moment as regards the meningitis campaign are satisfied. But this is only one of the contests that the Health Department is waging. The Department wants, and should have, discretionary authority to deal as it sees fit with all transmissible diseases. Under the ordinance, as framed and presented, this authority would have been given. Under the ordinance as passed, on the other hand, the Department has marked off for it just what diseases it may placard and quarantine. Men-

ingitis has been added to the list, thanks to a battle of several weeks' duration. But cholera has not, nor has yellow fever nor bubonic plague, nor a host of others. We are not expecting an immediate epidemic of meningitis. As the matter stands now, the appearance of any disease not included in the list would necessitate an amendment to the ordinance before the Health Department could perform its functions in protecting the city's health. The contemplation of this condition is enough to point the necessity for continuing the campaign until the more comprehensive ordinance requested by the Health Department is passed.

"The Health Committee of the Council is making quite as inglorious a record as that of the Board of Aldermen. The indifference and positive opposition that its members are showing to the proposed fly-screening ordinance cannot be condoned on any score. Two members of the committee failed to keep an engagement with health officers and several women on Monday when it was proposed to discuss the merits of the ordinance, and the meeting was adjourned without results. And on Monday night a similar attitude was shown by the absence of every member of the committee from another meeting scheduled for the same purpose.

"This ordinance, which provides for the screening of all garbage cans, vaults and refuse receptacles, would reduce more than any conceivable contrivance the danger incident to flies during the spring and summer months. It should meet with favorable action at the hands of the council without delay."

THE PUBLIC HEALTH.

The following editorial from the *Louisville Post* of the 13th inst., is an excellent example of the appreciation of work for the preservation of the public health now going along in Kentucky:

"The Evening Post received a letter from 'Constant Reader,' asking if in our judgment, the public library should not be closed in order to check the spread of disease 'due to unfumigated books?'

"The Evening Post has had a theory that science in the discovery of the germ of disease has done much to destroy fear, and fear is the very worst disease that can afflict the public mind.

"But there are a number of persons whose fears are accentuated by the apprehension of floating germs, and they find them everywhere, at all times, and under all conditions.

"The Evening Post believes that health matters concerning the Public Library, the Public Schools, and all other gatherings, had best be left to the health officers. It is our

judgment that these gentlemen are doing all that science justifies them in doing, and that probably they are going a little beyond the absolute line of security in order to allay fear that cannot be allayed by any device whatever.

"It can be remarked incidentally that a week ago the children's department of the library was closed as a matter of extra precaution, but it has not been deemed necessary to close the library to the use of intelligent adults.

"Our belief is that there is no possibility of transmitting the germ of spinal meningitis through the unfumigated books at the library. We believe that the germ of scarlet fever is perhaps the most long-lived and persistent of all germs; but there is little or no scarlet fever in this city, and we do not imagine that there is any danger from contagion of meningitis through the books.

"There have been a few instances in which more than one case of this disease occurred in one family, but these occurred at one and the same time, showing that both victims had been infected by the same causes. Little is known about the method of transmission, but the general belief is that it is transmitted through the atmosphere to some susceptible body; whereas, other persons in contact with the victims pass unharmed. The theory is that they are immune; that they furnish no opening to the germ, but that they may themselves, in expelling the germ, through sneezing, coughing or expectoration, convey the germ to other susceptible people.

"It seems hardly probable that the germ of spinal meningitis could be carried in the clothing or any other way save through the atmosphere, and that by the means indicated.

"There have been more cases of spinal meningitis in Louisville this year than for several years, but there have been no large number of cases, though there have been a large number of deaths in proportion to the cases. The reason for this large mortality is that the trouble is difficult to diagnose until it is too late to apply the heroic serum treatment.

"It is further to be considered that many of the cases called meningitis this year were called gripe or pneumonia or some other kindred disease last year.

"The Evening Post is not an alarmist, and it does not suppress the news. It is giving all the verified facts, and it is not making itself a common carrier for alarming reports which, when investigated, are found to be groundless. The Health Department is dealing with perfect frankness with the people, and the newspapers, as far as we have observed, are following a like policy of candor.

"Instead of advising the Health Department as to what institutions should be closed, we would advise our friends to follow the

ordinary rules of precaution, of self-protection, and above all things to cultivate that feeling of confidence and cheerfulness that is the best resistance to disease of any character at any time."

COMPLIMENT TO THE LOUISVILLE CITY BOARD.

It is with especial pleasure that we reprint the attached compliment to the City Board of Health of Louisville. Dr. Grant's work has been particularly effective:

"E. E. Rittenhouse, conservation commissioner of the Equitable Life Assurance Society, is in Louisville, to-day, the guest of Henry J. Powell, State agent of the same company. Mr. Rittenhouse is completing a tour of the South for the purpose of consulting with the heads of the Health Departments of the large cities of the South and the medical officers of the various States, concerning methods for the conservation of human life.

"Mr. Rittenhouse was in conference to-day with Dr. Ed Grant, Health Officer of the city of Louisville. In an interview Mr. Rittenhouse said:

"The movement for the conservation of human life has assumed nation-wide proportions. The activities of the public health departments have doubled in the past five years. The Equitable Life Assurance Society has joined in this great movement, not only because a reduction in death rates reduces the cost of insurance to policyholders, but because it wants to use its influence and help in reducing sickness and life waste in this country.

"The death rate in this country has been reduced 25 per cent. in thirty years.

"It is entirely within the limits of possibility for Louisville to cut its death rate in two in the next thirty years. You have certainly the right spirit and have made the right start by the building of trunk-line sewers. You have also made an extraordinary advance in providing the new million-dollar hospital, which is now being constructed, and which will take rank among the greatest institutions of its kind in the country.

"I have visited many cities, as we watch the mortality closely, and none are making better progress than Louisville in the direction of life conservation. This is of vital importance, because there are about 1,500 people dying in Louisville annually from preventable cause."

A NEW DICTIONARY.

We wish to call the special attention of our readers to the opportunity of getting a first-class dictionary in accordance with the terms described in the advertisement, on page XX of the April 1st issue. The Editor has taken advantage of it and this dictionary is really worth while, being all in one volume and containing practically all of the words in the English language. It will be invaluable on every busy man's desk.

THE N. F. NOT A THERAPEUTIC NECESSITY.

The American Pharmaceutical Association, which publishes the National Formulary bases the book on "pharmaceutic necessity" and not on "therapeutic utility"—that is, it admits those articles for which the pharmacist believes there is a demand, no matter whether such preparation is of therapeutic value or not. So also, a voting majority of the Committee that issues the United States Pharmacopoeia insists that the book shall contain those articles for which there is demand no matter from whence this demand comes and no matter whether the drug be valuable or worthless. In view of the admitted scope of these books it is somewhat difficult to understand how the National Association of Retail Druggists has the hardihood to argue that physicians should use *all* U. S. P. and N. F. preparations just because they are of the U. S. P. and in the N. F. And yet this is the tenor of the "U. S. P. and N. F. Propaganda" of this association of druggists.

Recently the *Journal A. M. A.* warned physicians that this propaganda was likely to result only in weaning physicians away from proprietary nostrums to become addicted to the equally unscientific habit of prescribing unscientifically the shot-gun mixtures of the U. S. P. and N. F. In view of the active "propaganda campaign" that is being waged just at present, we quote the following from an article in the *Journal of the Missouri State Medical Association* (February, 1912, p. 322) in which it is pointed out that the National Formulary, while useful as a book of convenient formulas, is not a book which the physician should in any way consider a therapeutic necessity. The physician who can get along without it is to be congratulated. The many complex formulas contained in it are a credit neither to the pharmacists who devised them nor to the physicians who prescribe them. In these days of scientific thought, when physicians want to know the effect produced by each drug given and hence abstain from prescribing the old, hopeless con-

fusions formerly in vogue, there is little need for the most of the ready-made things in the book."

NOSTRUM ADVERTISING IN THE RELIGIOUS PRESS.

No class of publications has made greater progress, says the *Journal A. M. A.*, (March 23, 1912, p. 864), in censoring its advertising than the religious journals. Four or five years ago, the various church publications fairly reeked with advertisements of nostrums of the most fraudulent and vicious kinds. A wonderful house-cleaning has taken place in the past half-decade, and most religious journals of the better class have dissolved their previous coalition with the "great American fraud." Here and there, of course, are to be found church papers that are still willing to share the blood-money of quackery for the sake of increasing their revenue. One of this class appears to be the *Northern Christian Advocate* which carries advertisements for the notorious humbug Oxypathor. Oxypathor is the name applied to what was formerly known as the Oxygenator one of the numerous devices sold in the exploitation of what has been called "gas-pipe therapy." The Oxypathor consists of two flexible cords attached to a piece of nickel-plated piping filled with an inert mixture of clay and cobalt and sold as a "cure" for diphtheria and nearly every other disease. It has just as much curative value as a tomato-can with a piece of string tied to it.

It is but fair to say that while the *Northern Christian Advocate* is a Methodist publication, it is not owned by the Methodist church, but by a number of ministers. Apparently, there is the same commercial domination of what may be called the independent religious press as that which at present afflicts a large proportion of the "independent" medical press. The evil in both cases will doubtless continue until the intelligent subscribers refuse longer to be *particeps criminis* with the publisher in perpetuating fraud.

DEATH OF DR. RUSSELL BROUGHTON

We note with regret the death, at Rockford, Illinois, on April 4th, of Dr. Russell Broughton, familiarly known to the physicians of Kentucky as the physician in charge of one of the best sanitariums for nervous diseases in this country. Our readers will be glad to know that the Sanitarium will continue to be conducted by Dr. G. A. Weirick, Dr. Broughton's successor. The profession can ill afford to lose such a man as Dr. Broughton.

SCIENTIFIC EDITORIALS.

COMMERCIALISM: A RUDE AWAKENING.

Babylon was in a blaze of glory, haughty and high spirited in its pride and wickedness; proud of its power, its beauty, its marvelous hanging gardens, one of the seven wonders of the ancient world. Belshazzar, the king, the last of the Babylonian dynasty, himself an usurper, made a great feast, eating and drinking out of the golden and silver vessels, taken from the temple of Jerusalem. Great was the feast, many were the slaves waiting upon the people, many were the princes' wives and concubines that sat about the festive board and "drank in them." Belshazzar trusted to his walls and to his marvelous fortifications, but in the hour of his confidence and in the hour of his power, "came forth fingers of a man's hand, and wrote over against the candle stick, upon the plastering of the wall, of the King's palace, and the King saw the part of the hand that wrote," and Potentate though he was, fear entered into his heart, his knees smote together, and he hastily summoned about him his astrologers, his Chaldeans and his soothsayers, but none could read the writing on the wall. Daniel was sent for; "Mene, mene, teckel, upharsin," and Daniel stretched forth his hand, and said, "And, thou, oh son of Nebuchadnezzar, has not humbled thy heart, but God hath numbered thy kingdom, and finished it; thou art weighed and found wanting, and thy kingdom is divided"; and almost as the prophetic words fell from the mouth of the great disciple of the Divine Will, Darius, the Mede, marched through the open gates of the city and slew Belshazzar in all his glory.

The story of ancient Babylon may in analogy be applied to things more modern; perhaps it is suggestive; perhaps "the moving hand having writ, moves on" from Belshazzar's time to ours, and perhaps there is upon our wall, over against the candle stick, in the brilliant light another "Mene, mene, teckel, upharsin," one that may possibly, in the very near future bear some of the same kind of fruit as was borne to Belshazzar upon that memorable night before the days of Christ. And what, may I ask, is the interpretation of our Daniel, of the writing hand? It is, in my opinion, the powerful and reforming force of publicity.

In Pearson's for September, 1911, and March, 1912, Arno Dorsch, writing under the titles of "Farce of Medical Ethics," and "Too Many Doctors," says some very hard things concerning the medical fraternity and of the

necessity of giving them the widest publicity.

My object in reviewing these attacks is not to enter into the so-called "moral side of the question;" I say "so-called" because morals do not signify a question of right and wrong, but really "custom;" and it is notorious that what may be moral in one generation may be immoral in another, that is to say, the "customs" may be different.

My object is to point to what, in my opinion, is a serious menace and danger to the medical profession. These articles, giving the widest publicity to some of the defects in our present system, will have an undermining effect upon the confidence reposed in us as a medical body. I believe that the majority of real doctors do not indulge in the practices mentioned; that they, as a body, give more freely of all that they know than any other body of professional men in existence and that they stand, as a rule, for the highest principles in public, private and professional life; that they are more liberal with their services to the poor and poverty stricken than any other body of men; that they give more freely of their sympathy, consideration and emotional nature and that many live a life of self abnegation true to the highest ideals.

Dorsch attacks the medical school and it cannot be gainsaid that his statement that we have too many doctors on our hands who have not had a fair chance to learn their profession, is absolutely true, and this he upholds because Mr. Abraham Flexner has stated that "of the 154 schools now *grinding out graduates*, he could see an excuse for only 31; of these, only 26 are in the United States." We might paraphrase Mr. Flexner's comment and say that in many cases, public health would be better cared for if all the vacancies remained unfilled for a decade to come." These schools he said, lacked proper equipment and money to buy it; lack of ideals; self aggrandizement of faculty and were being conducted purely and simply as money-making institutions. Certainly his arraignment is severe enough to make every young man aspiring to enter the already overcrowded profession cautious as to the selection of his profession, his school and his vocation. Indeed in these strenuous times, nay, very hard times, it is an open question as to whether a young man is justified in entering the profession of medicine. It is oftentimes a courage born of ignorance. The severest arraignment is on the fee-splitting between family physician, surgeon and specialist. It would indeed be a pleasure to refute his contentions, but they cannot be refuted, for it is doubtless true, that many doctors have such a hard time making a living that they have to split fees or something else. He

comments upon the taking of commissions by certain doctors on prescriptions filled at certain drug stores. While in some cases of large fees, the taking of part by the humble and estimable family physician without the knowledge of the patient may be condoned, the accepting of a drug store rebate is nothing more than *petit larceny*, and is beneath a profession who chooses to consider their fees as an *honorarium*. He advises each and every doctor to print his own prescription blank; a rule that I have followed for twenty years. There is no question but what the commission accepting from druggists and the division of fees between doctors will have to stop. It is not going to be left to the profession to clean its own Augean Stables, but the hand writing on the wall is plainly visible, and it takes no medical Daniel to tell the profession that such practices and such methods cannot long survive the lime light of publicity, nor the cold logic of the business man.

In the end, I believe things will be better. The family physician as well as the surgeon or specialist is entitled to a just and reasonable compensation for his services and he should demand it. There is no physician, surgeon or specialist that is worthy of the name that will not back him up in his rights, in his demand for recognition and compensation; but this must be granted with hands above the table and with an ungummed deck of cards; it must be a *square* deal, between *all parties concerned* and where this is carried out, not only will it in the end be better for the family physician, but better for the consultant, surgeon or specialist and in the long run, better for the patient. Self respect, begets respect from others, and honesty of purpose and openness of action will insure that respect, that friendship and that close communion that should always exist between doctors and patients.

CURRAN POPE.

A MEAD OF PRAISE.

Anent my editorial in reference to the present tendency toward commercialism in the medical profession; a fresh addition to which has appeared from the pen of Dr. Reed, of Cincinnati, in the last issue of *Pearson's*. It becomes a pleasant matter to regard some extremely kind wishes and appreciation spoken in the profession's behalf.

The prayer, which follows is from the pen of Walter Rauschenbusch, and appeared in the *Volunteers Gazette*, the official organ of the volunteers of America. Mr. Rauschenbusch is unusually gifted along this line of writing, and his "prayers" have been a source of very pleasant reading to me. It is therefore with great pleasure that I recommend to my professional brethren, not alone the

prayer, but the beautiful ideas contained therein, as a light that might lead us kindly to further and better endeavors. We can but express our gratitude and appreciation to the author.

"We praise Thee, O God, for our friends the Doctors and Nurses, who seek the healing of our bodies. We bless Thee for their gentleness and patience, for their knowledge and skill. We remember the hours of our suffering when they brought relief, and the days of our fear and anguish at the bedside of our dear ones, when they came as ministers of Thee. May we reward their fidelity and devotion by our loving gratitude, and do Thou uphold them by the satisfaction of work done well.

"We rejoice in the tireless daring with which some are now tracking the slayers of mankind by the white light of science. Grant that under their teaching we may grapple with the sins which have ever dealt death to the race, and that we may so order the life of our communities that none may be doomed to an untimely death for lack of simple gifts which Thou has given in abundance. Make Thou our doctors the prophets and soldier of Thy Kingdom, which is the reign of cleanliness and self-restraint, and the dominion of health and joyous saving.

"In their whole profession, strengthen the consciousness that their calling is holy and that they, too, are disciples of the saving Christ. May they never through the pressure of need or ambition surrender the sense of a Divine mission and become hirelings who serve only for money. Make them doubly faithful in the service of the poor who need their help most sorely, and may the children of the working man be as precious to them as the children of the rich. Though they deal with the frail body of man, may they have an abiding sense of the eternal value of the life residing in it, that by Thy call of faith and hope they then may summon to their aid the powers of Thy all-pervading life."

CURRAN POPE.

NOT UNGRATEFUL, NOT UNMINDFUL.

"How sharper than a serpent's tooth, it is To have a thankless child."

—Shakespeare, King Lear, Act I, Sc. 4.

The statement of the great Bard of Avon is likewise applicable to-day to the position held by the good and faithful public servant for there are indeed many who fail to appreciate to its full, the unending labor and the ability required to carry out those endeavors that have for their object the benefit of the public at large. Appreciation seems to come only at times when a spectacular exhibition holds the public eye, when something meteoric in its

course lights the horizon and calls attention to the particular luminary; the laborer in the dark rarely ever gets sufficient credit for his work. Whenever an individual devotes his abilities and life to a work in favor of right, justice and truth, he is sure to meet with strong opposition from all the powers of darkness. These heap upon him every calumny possible, and the man that interferes with the powers of "Big Business," the minions of avarice, the quack, the patent drug man, the abortionist, and the *discontented*, opposes a formidable foe, full of power and is liable to be subjected to most unjust criticism and to suffer a penalty for his acts.

"Injustice swift, erect and unconfined

Sweeps the wide earth and tramples o'er mankind."

—Homer, Iliad, Book IX.

This is a day of a battle of individuals against powerful aggregations, a great fight of right against wrong, of the people against the interests, a fight to a finish, bare knuckles and London Prize Ring Rules.

No man to-day is safe from attack who is in public life and in the lime light; no work is too good to escape censure.

"He that doeth public good for multitudes, finds few are truly grateful."—Massinger. Lately the medical profession through its State Board has been under investigation, and it is indeed to the profession, a source of great gratification that not alone has the Board been vindicated, but that it has come through clean and is in a position to-day to carry forward its great work for the people of the state of Kentucky. The public press tells us the middle of this month that Kentucky has made a most excellent record in its vital statistics registration, and the profession is now to be congratulated upon at last being in the registration area, an area of modern medical civilization.

It cannot, however, be said that the Kentucky profession were unmindful of its State Board work, nor of the long labors and useful life of its secretary, nor can the charge be laid to their door of being ungrateful or guilty of injustice. They have indeed disproved in this instance, Shakespeare's saying,

"Blow, blow thou Winter wind,

Thou art not so unkind as man's ingratitude."

—As You Like It, Act II, Sc. 7.

The Kentucky profession has its idols and hopes the good work will ever go on under able administrative hands.

The profession stands unalterably in the van of medical progress, desiring the safety and health of the public, pure food, vital statistics and the clean and honest administration of all health propositions.

We can, in conclusion, truly say that we are proud to stand back of our State Board, and that the intelligence of the entire profession is with them in their work and that we expect medically to reiterate the motto of the grand old Commonwealth of Kentucky,

"United we stand and divided we fall."

CURRAN POPE.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A., Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

RELIABLE MEDICINES.

Articles found eligible by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies."

CORNUTOL is a biologically tested liquid extract of ergot. Dose, hypodermically, 0.65 to 2 cc. (10 to 30 minims); by the mouth 0.65 to 4 cc. (10 to 60 minims). The date of testing appears on each package. Cornutol is put up in 1 ounce vials and in ampuls, each containing cornutol 2 cc. (30 minims). H. K. Mulford Co., Philadelphia. —(*Jour. A. M. A.*, March 9, 1912, p. 701).

DIGITALIN is a biologically and chemically standardized, fat-free tincture of digitalis, corresponding in drug strength to tincture of digitalis, U. S. P. Dose, 0.3 to 1 cc. (5 to 15 minims). The date of testing appears on each package. H. K. Mulford Co., Philadelphia. —(*Jour. A. M. A.*, March 9, 1912, p. 701).

ERCOPIX is methyl-codeine bromide, $C_{18}H_{21}O_3N(CH_3) Br$. It is easily soluble in water. It corresponds to 80 per cent. of codeine and to its own weight of codeine sulphate. It is said to be useful as a sedative as a substitute for codeine, especially in cough, where its action sometimes favors secretion. Dose, 0.06 gm. (1 grain).

EUCODIN is also marketed in the form of tablets each tablet containing eucodin 0.05 gm. (5-6 grain). Riedel & Co., New York. —(*Jour. A. M. A.*, March 16, 1912, p. 780).

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

Euscorol is optically inactive scopolamine hydrobromide $C_{17}H_{21}O_4N.HBr$. It is easily soluble in water and alcohol. It closely resembles the official scopolamine hydrobromide in its physical, chemical and pharmacologic properties. It is claimed to have a milder action because of the absence of other alkaloids said to be contained in the natural scopolamine hydrobromide. Riedel & Co., New York.—(*Jour. A. M. A.*, March 16, 1912, p. 780).

PHARMACEUTICAL PREPARATIONS OF ACCEPTED ARTICLES.

Tablets, Oxyntin with Pepsin, each containing oxyntin 3 gm. (5 grains) and pepsin equivalent to pepsin, U. S. P., 1 grain.

Capsules, Oxyntin with Nux Vomica, each containing oxyntin .3 gm. (5 grains) and nux vomica equivalent to tincture nux vomica 0.33 cc. (5 minims).

Capsules of Holadin, Bile Salts and Phenolphthalein, each containing holadin 0.13 gm. (2 grains), bile salts, Fairchild 0.03 gm. (1-2 grain), phenolphthalein 0.065 g m. (1 grain).

Capsules of Holadin, Succinate of Soda and Bile Salts, each containing holadin, 0.20 gm. (3 grains), sodium succinate exsiccated 0.20 gm. (3 grains) and bile salts, Fairchild 0.03 gm. (1-2 grain).

Capsules of Bile Salts, Succinate of Soda and Phenolphthalein, each containing bile salts, Fairchild 0.065 gm. (1 grain), sodium succinate, exsiccated 0.20 gm. (3 grains), and phenolphthalein 0.03 gm. (1-2 grain).—(*Jour. A. M. A.*, March 16, 1912, p. 780).

RELIABILITY OF DIGITALIS AND ERGOT PREPARATIONS.—Recent investigations by Edmunde and Hale of digitalis and ergot preparations, claimed to have been standardized biologically, suggested that the manufacturers had not used the care and skill in making the product which the advertising claims would lead one to expect. One manufacturer, the H. K. Mulford Company, has met these serious charges and having instituted the reforms suggested by the examination has secured the acceptance of its preparations, Cornutol and Digital, for inclusion with New and Nonofficial Remedies.—(*Jour. A. M. A.*, March 9, 1912, p. 705).

SQUIBB'S THOREMEDIN (THORADIN) EXPOSED.—This "cancer cure" (claimed to depend for its activity on radio-active thorium is shown by analysis in the A. M. A. Chemical Laboratory to contain 35 per cent. of concentrated sulphuric acid. Dr. W. A. Pusey points out that the activity of the cancer paste depends on the generally discarded and discredited cauterant sulphuric acid and deplores the fact that the honored name of E. R. Squibb and Sons should have become connected with

this vicious nostrum.—(*Jour. A. M. A.* March 9, 1912, p. 716).

SULPHURRO.—Sulphurro is put out by the C. M. C. Stewart Sulphur Company, Inc., Seattle, Washington. Examination in the A. M. A. Chemical Laboratory showed that it, like sulphume and other "liquid sulphur" preparations, is a solution of calcium sulphide such as is obtained when sulphur lime and water are boiled together. The foul smelling liquid is recommended to the public for the treatment of rheumatism, asthma, goiter, eczema, dyspepsia and all diseases of the stomach, bowels, kidney, skin and blood. Its use as a rectal enema, a vaginal douche or as an eye wash is also recommended.—(*Jour. A. M. A.*, March 9, 1912, p. 719).

REFORM IN MEDICINES.

DEFINITION OF NON-PROPRIETARY MIXTURES.

—To distinguish between mixtures that are not admitted to New and Nonofficial Remedies because they are non-proprietary and hence without the scope of the book from proprietaries that are not in the book because they are ineligible, the following definition of proprietary mixtures is given: "A mixture will be considered as proprietary, and therefore requiring consideration by the Council and admission to the book or appendix, if it contains any proprietary article, if it is marketed under a name which is in any way protected or if its manufacturer claims for it any unusual therapeutic qualities."—(*Jour. A. M. A.*, March 9, 1912, p. 719).

STERILIZATION OF COCAIN SOLUTIONS.—While it is generally believed that cocaine solutions may not be rendered sterile by boiling, experiments have demonstrated that under ordinary conditions cocaine solutions can be boiled without serious decomposition.—(*Jour. A. M. A.*, March 9, 1912, p. 721).

THYROID AND MORAL RESPONSIBILITY.—A plea of partial irresponsibility on account of thyroidism (induced by taking thyroid tablets in excess) was made in a London police court. This is another illustration of the risks in health incurred by those who indulge too freely in thyroid or in some of the "anti-fat remedies" containing it.—(*Jour. A. M. A.*, March 16, 1912, p. 787).

MARJORIE HAMILTON'S OBESITY CURE.—This is claimed to be a dietless and drugless system for the treatment of obesity. The advertising booklet sent out by Marjorie Hamilton, Denver, Colo., prescribes, however, a system of dieting and as a means of revenue to the promoter prescribes frequent baths with "Healthstone-Obesity Bath Powder," sold at \$2.00 a pound, to be applied to "the fat parts or whole body twice daily." Marjorie Hamilton's bath powder was examined in the chem-

ical Laboratory of the American Medical Association and found to consist chiefly of sodium carbonate with smaller amounts of magnesium sulphate, potassium nitrate and possibly sodium sulphate.—(*Jour. A. M. A.*, March 16, 1912, p. 798).

PHENACETIN AND ACETPHENETIDIN.—While at one time the product sold as phenacetin was protected by patent and the name trademarked now, that the patent has expired, the product as well as the name is non-proprietary. Although it is official in the pharmacopoeia as acetphenetidin, physicians generally prescribe it by the formerly proprietary name phenacetin. As the product sold under the name phenacetin demands a price as much as five times that asked for acetphenetidin in the A. M. A. Chemical Laboratory determined the purity of the market supply, of acetphenetidin and of phenacetin and found both equally pure. Inasmuch, therefore, as acetphenetidin complies with all the pharmacopoeial requirements as to identity and purity, in just the same way as phenacetin, physicians need not hesitate in using the title of the U. S. P. "acetphenetidin" when prescribing this product.—(*Jour. A. M. A.*, March 16, 1912, p. 801).

CHINOSOL.—Although chinisol is now recognized by the Council on Pharmacy and Chemistry and is described in New and Non-official Remedies, physicians, so the Chinisol Co., complains, are inclined to ignore the product, because at one time claims made for it were criticised in a report of the Council.—(*Jour. A. M. A.*, March 16, 1912, p. 804).

TINCTURE OF IRON AND THE TEETH.—Preparations claiming to contain tincture of ferric chloride in a form that will not effect the teeth are impossibilities. It may be assumed that if such a preparation does not injure the teeth when given in ordinary dilution, it does not contain chloride of iron. If, therefore, one desires to use the chloride or iron for its local effects on the throat, the stomach or the intestines, it is necessary to give it through a tube or largely diluted, in order to prevent injury to the teeth.—(*Jour. A. M. A.*, March 16, 1912, p. 805).

CRESOLENE.—Cresolene, or Vapo-Cresolene, according to the A. M. A. Chemical Laboratory is essentially cresol and corresponds in every respect to cresol, U. S. P.—(*Jour. A. M. A.*, March 16, 1912, p. 806).

DIABETIC FOODS.—While much has been written to show that gluten flours and gluten foods are unreliable and unsatisfactory as food for diabetics nevertheless a study of the markets shows that there must be a steady and even growing demand for these products, if the increasing number of "brands" offered for sale may be taken as an index of the busi-

ness. The entirely unsatisfactory "standard" established by the government and accordingly adopted by various boards is plainly responsible in great measure for the unfortunate situation that now exists. The United States standard for gluten flour calls for a protein content of only about 40 per cent, leaving the unfortunate possibility of having a preparation which is one-half starch marketed in conformity with legal requirements. A recent series of analyses of goods sold as gluten preparations in the state of Connecticut showed that most of them exceed the requirements of the standard; yet these foods, the products of the Pure Gluten Food Co., The Health Food Co., Johnson Educator Food Co., D. M. Welch & Son, and the Battle Creek Sanatorium Food Co., contains from 27 to 68.85 per cent, starch. It is suggested that a statement of starch content, on the label of each product, be made compulsory.—(*Rep. Conn. Agric., Expr. Sta.*, 1911, Part II, p. 134).

WHAT'S THE MATTER WITH MICHIGAN?—"Professor Samuels," of eye water fame, finding things uncomfortable in Kansas announces his proposed removal to Michigan, a state where quacks are least liable to inspection on the part of officials. Michigan, it appears, has as many mail-order medical fakes of a vicious and fraudulent character as can be found in any other three states in the Union, irrespective of population and one wonders what peculiar influence protects swindlers in this state.—(*Jour. A. M. A.*, March 23, 1912, p. 863).

"BOOST FOR REXALL."—The United Drug Company whose products are sold under the general trade mark name "Rexall" is a co-operative patent-medicine concern like the American Druggist Syndicate, "A. D. S.," composed of druggists who, not content with the profits derived from the sale of patent-medicines, have engaged in their manufacture as well. Like other patent medicine manufacturers this concern, because of the more stringent state and federal laws governing the sale of "patent-medicines" in the United States has decided to extend its operations to England which is fast becoming the haven of patent-medicine promoters.—(*Jour. A. M. A.*, March 23, 1912, p. 876).

THE BRANERMAN REMEDY COMPANY.—The Dr. Brainerman Remedy Company is a mail-order medical fake of Kansas City, exploiting a "cure for deafness" against which a fraud order was issued by the Post-Office Department. It has received a final knockout blow through a recent decision of the United States Circuit Court for the western district of Missouri which denied an injunction against the fraud order issued by the Postmaster-General. An interesting feature of the complainant's

bill of equity asking for the restraining order against the Kansas City postmaster was the allegation that the action of the Postmaster-General was the result of a conspiracy involving the American Medical Association, the Jackson County (Mo.) Medical Association and a number of doctors of Kansas City, as well as the attorneys for the government and the United States post-office inspector. This seems to be becoming the favorite defense of the quack, the faker and the nostrum-vender, when they are brought to book for their fraudulent methods—claiming conspiracy with others on the part of the American Medical Association, the great "medical trust," which seeks to destroy a lot of innocent but enterprising gentlemen who are only seeking to benefit the people and incidentally to earn an honest dollar.—(*Jour. A. M. A.*, March 23, 1912, p. 877).

THE BRITISH PHARMACEUTICAL CODEX.—This book combines the features of the American dispensaries and of the National Formulary. The work bears evidence of having been critically written and of having been revised to include recent pharmaceutical investigations and thus is much superior to the dispensaries published in this country and it should, therefore, be of correspondingly greater value to physicians. While the formulas given are many and excellent, and their intelligent use by physicians in place of proprietary remedies represents a step forward in therapeutics, the physician who uses the codex should not accede to the evident intent of its compilers to favor the employment of critical prescribing.—(*Jour. A. M. A.*, March 23, 1912, p. 886).

NATURE'S CREATION.—A peep behind the scenes as regards the exploitation of patent medicines is given through the falling-out of the exploiters of Nature's Creation. This nostrum was first sold to the public as a cure for syphilis but later became a "consumption cure." The chief promoters, Mrs. J. M. Reynolds and Mr. H. W. Campbell, have had a falling-out and Campbell has taken the matter into court. The sordid details now brought out, it is hoped, will demonstrate to the public the fraudulent nature of the stuff.—(*Jour. A. M. A.*, March 30, 1912, p. 953).

OBJECTIONABLE PROPRIETARY NAMES.—In an address to manufacturers the Council on Pharmacy and Chemistry shows that it is possible to provide medicines with names descriptive of their composition and that the interests of both the manufacturer and the consumer, the physician and his patient, can be sufficiently safeguarded if to the descriptive name of an article there be appended a distinctive word, syllable, initial or sign that shall identify its manufacturer. The feasibility

of coining proprietary names that shall indicate the important constituents of a remedy is shown by illustrations taken from "N. N. R." The objectionableness of names which suggest the use of a remedy to the public is discussed and it is also pointed out that names suggestive to physicians are objectionable because there is a tendency that physicians will base their use of the remedy on the name without giving due consideration to the condition and symptoms of the patient. Since therapeutically suggestive titles have been applied to proprietary medicines without any intention of appealing to the public and since it is difficult to change a name once established the Council has decided to make no objection to such titles if they are already in use provided they are not liable to lead to the use of a remedy by the public.—(*Jour. A. M. A.*, March 30, 1912, p. 953).

WINSLOW'S SOOTHING SYRUP.—Being held injurious to life the sale and advertising of Mrs. Winslow's Soothing Syrup has been prohibited in New South Wales, Australia.—(*Jour. A. M. A.*, March 30, 1912, p. 954).

DIASTASE PREPARATIONS UNSTABLE.—A discussion at a meeting of the Societe de Therapeutique de Paris called attention to the instability of diastase, particularly in liquid preparations. Speakers emphasized the necessity of using only recently-made malt preparations in therapeutics if the enzyme action be desired.—(*Jour. A. M. A.*, March 30, 1912, p. 954).

FORMICIN is formaldehyde-acetamide, $\text{CH}_2\text{C}_6\text{H}_4\text{N}(\text{CH}_3)\text{OH}$, a molecular compound of formaldehyde and acetamide. It is a thick syrupy, water-soluble liquid, having a faint formaldehyde-like odor and a slightly acid, bitter taste. Solutions of formicin liberate formaldehyde gradually at body temperature, and thus exert an antiseptic action. Formicin solutions are employed as injections into tuberculous and non-tuberculous joints, tissues and abscesses. Kalle & Co., New York.—(*Jour. A. M. A.*, April 6, 1912, p. 1014).

IODO-CASEIN is a compound of iodine with milk casein, containing about 18 per cent. of iodine in organic combination. It is a powder almost odorless and tasteless and insoluble in water. It is said to undergo practically no change in the stomach, but to be quickly digested and absorbed in the form of soluble iodides in the intestines. Dose, 0.3 to 1.3 gm. (5 to 20 grains). Iodo-Casein is also marketed in the form of tablets each containing 0.5 gm. (2 1/2 grains) and 0.3 gm. (5 grains) iodo-casein. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, April 6, 1912, p. 1014).

A GOOD EXAMPLE.—Having presented a member with a copy of "Nostrums and Quackery" the Los Angeles County Medical Society

now presents a copy of "New and Non-official Remedies, 1912," to each member. It is suggested that with the possible exception of those physicians whose confidence in their own good judgment is equaled only by their child-like faith in the statements of proprietary manufacturers that a copy of the book ought to be in the hands of every physician who prescribes.—(*Jour. A. M. A.*, April 6, 1912, p. 1021).

ZYMOTOID.—Dr. Arnold's Zymotoid, a non-train manufactured by Arnold's Zymotoid Company, Rockford, Ill., is a fraud of the Lignozone-Oxytonic-Septicide type. The A. M. A. Chemical Laboratory reports that the composition of Zymotoid was found to be: boric acid ((H_3BO_3) 0.637 gm., sulphur dioxide (SO_2) 0.129 gm., sulphuric acid (H_2SO_4) 0.048 gm., potassium nitrate, a trace, unidentified organic matter, a trace, and water (by difference) to make 100 c.c. The analysis shows that but for the presence of boric acid the composition of Zymotoid is similar to other fraudulent "microbe killers."—(*Jour. A. M. A.*, April 6, 1912, p. 1030).

HAMLIN'S WIZARD OIL.—From published formulas it appears that Hamlin's Wizard Oil is a variable mixture containing spirit of camphor, spirit of ammonia, chloroform, oil of sassafras, oil of cloves, oil of turpentine and alcohol. Linaments of this kind should be considered as belonging to the past.—(*Jour. A. M. A.*, April 6, 1912, p. 1033).

ORIGINAL ARTICLES

PELLAGRA.*

By M. W. STEELE, Corbin.

In dealing briefly with this subject, I shall confine myself principally to observations and conclusions of my own. Much has been said of the probable cause of the disease, but facts seem to be unknown; therefore, there is a great field of work before us. Obscure as the disease may seem to be, there must surely be some simple avenues of obtaining facts. We have read from writers on the subject that it is not a new disease, that it is probably 200 years old. We have only recognized it in south-eastern Kentucky within the last three years, but I believe it has been in this section to some extent for probably twenty years or more. Last spring and summer we had a large number of cases, but we also had a lot of pellagra-phobia.

In my experience with this malady since its appearance was recognized in the territory mentioned, I have not worked on any particular theory, or confined myself to any

special line or method of treatment; but rather have taken notice of all the theories and discontented myself by trying to find some new line of thought. Pellagra, I believe is not confined to any special sections of the State, but is present in some degree in all sections of Kentucky. I have seen some very typical cases in the western part of the State. But since the counties of Whitley, Knox, Laurel and Bell seem to be the site of the greatest development of this strange malady, and being myself located in the center of this territory, it might be presumed that my opportunities for study have been very good; but in the absence of facilities for giving the patients guarded attention in the way of diet, baths, etc., it has been a serious matter in my experience, to make it possible to do the question justice, and at the same time give proper attention to my general practice, from which I must look for my income. I do not recall having received but two small fees for services rendered pellagrous patients. I would be almost ashamed to take a bill if it were tendered me, for as a rule they are too poor to pay a bill.

The cases as a rule are very much scattered among the rough sections of the hills and mountains in places very difficult of access with reasonable convenience. The larger per cent. of pellagrins are very poor, unable to buy the necessary medicines and food stuffs, to say nothing of clothing, etc. May and June seem to be the most favorable time of serious developments. The disease has become so very prevalent, that the inhabitants have become very serious in their inquiries for some knowledge of prevention and treatment, and because of the honesty and frankness of the good men of the medical profession, admitting that the best known treatment is at most uncertain, and that no facts are known, a large number have through ignorance fallen into the hands of quacks, or a better term would be, robbers. A number of pitiful patients are possessed with a great deal of self-consciousness, and because of false rumors and the influence of evil persons, in the disguise of friends, are difficult of approach.

Therefore, the one serious question which confronts us is how to combat what seems to be the leading causative factors, ignorance, indifference to sanitary precautions, poverty, and various sins and vices. It moves me to see in my rounds the poor pitiful patients, especially in the case of children. It is appalling, not to say tragical. This thought leads me to mention malnutrition as an etiological factor and theory, though I believe a discarded theory, I believe worthy of the most careful consideration. The pellagrins and their associates are, as a rule, a class who select their food with little thought or knowledge

*Read before the Muldraugh Hill Medical Society.

of their food value. And a proper variety can not be had. These facts associated with the habit of eating and overeating cheap candies and other trash, and that between meals and sometimes taking the place of a meal, leads us to wonder that they are not more afflicted.

It is very common, even in the rural sections, to find families over-crowded in close rooms or huts. Infrequent bathing, irregular habits, eating of wild greens carelessly gathered, and of unripe fruits and drinking of surface water, etc., is to be remembered. In many cases the food is very poorly cooked and unattractively served, or rather not served at all, but fed to the poor little hungry children. We sometimes find housewives who do not empty their coffee pots of the old coffee, but sit it on the back of the stove to soak and simmer; day after day pouring off the black poisoned stuff for John or Jim to drink. This is not because the women are lazy, they are untaught and unthoughtful, following habits learned from their mothers and grand-mothers.

In visiting schools it so common to see school children tired and worn with an unattractive look because of malnutrition and disease. In this matter it seems that there could be no greater work for the Womans' Clubs and the churches than to give a part of their time to educating the well-meaning mothers in cooking and serving of food, for in so many instances these uninformed wives and mothers are pure at heart and virtuous, and are only too glad to be taught better modes of living. Right here I want to digress to say that in Corbin we have one of the most zealous and active Womans' Clubs in the State.

Since many investigators are working seriously on the question of the cause of pellagra we await anxiously some solution of the problem. I can not conclude that the disease is hereditary, or that it is contagious. It being endemic in character as has been noticed, would lead us to believe that it is toxico-infections, or due to some specific infection by bacteria or parasite. I believe the corn poison theory to be the least likely cause of any yet advanced, though it is certainly worthy of study. But in the meantime I occasionally take my corn bread as I have always done. But even if this theory were disproved altogether, I would warn the public to eat bread and syrup only from sound well cured corn. Dr. Saubon presents some strong points in his view of the sand-fly theory, but I am very skeptical about this theory, as I do not believe that the sand-fly really exists in this particular endemic center. Just here I desire to state that Prof. Garman, head of the State Agricultural Experiment Station, deserves great credit for the preliminary study which

he has made in south-eastern Kentucky working on the Saubon theory. All who have not done so should get a copy of his Bulletin No. 159 on this subject.

I quote an argument on this theory presented by some one as follows: "The season of the recurrence of pellagra coincides with the appearance of the full-fledged sand-fly, even to the extent that if the spring is early or late in appearing, the pellagra cases are early or late in their appearance." And again I quote, "In non-pellagrous districts the disease never spreads to others with the advent of a pellagrin from a pellagrous district." In the first instance I see little argument as the appearance of many things are governed by the season. And in the latter argument, I do not believe the statement can well be proven as correct.

We await further investigations this spring by Prof. Garman, which he has assured me he will do, covering the territory thoroughly.

Also during the fall of 1911 Dr. R. M. Grimm, of the Public Health and Marine Hospital Service worked our section very thoroughly gathering important data which in a reprint from the Lancet-Clinic can be had by any one by writing Dr. Grimm, at Savannah, Ga.

The only attempt to prove or disprove the simuliin or sand-fly theory so far as I know is being undertaken by Prof. Hunter of the University of Kansas, (see *Jour. A. M. A.* February 24, 1912). My observation has been that in many cases of pellagra there is an associated organic disease, and in most all cases a previous history of a "run-down" condition with the general system below par.

We owe it to ourselves to search for facts and in the meantime to impress upon the public the serious importance of better sanitary conditions. I believe that we as doctors, licensed by the State, owe it to the State to demand of the people in our territories cleaner methods of living.

SYMPTOMS.

As best I can observe in the cases I have seen, the first symptom is a feeling of distress with wanderings of the mind, a sharp development of temper and a sense of constriction; about the same time diarrhoea appears, followed in four to six days with a hyperemia or "sun-burn" on the back of the hands. Sometimes white spots scarcely noticeable occur on the hands just before the redness. The same condition of hyperemia may soon appear on the neck and the feet and the mouth usually becomes sore early, giving rise to pyralism later in the case; the patient becoming very nervous and irritable. Neuritis has been mentioned as a symptom. I

have never encountered it. I have seen only two cases with marked gastric disturbances. One case, an old man, presented a very severe congestion of the lungs, and almost complete loss of mind. I saw him in the last stages of the disease, a short time before death occurred. The characteristic skin lesions were prominent on hands, feet and face. I am not sure that he was not also tuberculous.

I notice that Dr. Hurty, Health Commissioner of Indiana, associates pellagra and hook-worm as one and the same disease. This from a man like Dr. Hurty comes as a surprise to me. Most assuredly he is wrong. I have seen and treated a number of cases of hook-worm, and fail to see but little similarity of symptoms. I have had typical cases of pellagra examined bacteriologically for the parasites with negative results. However, I admit the two diseases are sometimes associated together. I have seen such cases. I have noticed that a stoppage in the voice and sometimes stuttering are present in pellagrins. One can not but notice the peculiar symmetrical condition of the skin lesions. Many cases become demented early. A sore mouth is most always present and is a splendid diagnostic point in making an early diagnosis.

An interesting case treated by Dr. Sullivan was a woman, age 35; disease developed early in spring of 1911; had the diarrhoea; some mental symptoms; marked skin lesions on hands and neck; red swollen tongue. At the time the doctor saw her, she was nursing a five months' old baby which was nursed throughout the period, showing no sign of the disease itself. Both are now enjoying perfect health, apparently.

TREATMENT.

I will dwell very little on treatment as my experience has not been such as would be of much interest. Arsenite of copper, Fowler's solution or arsenic and dilute phosphoric acid have been used with good results. In the absence of any known specific, I do not recall to have treated any two cases alike. I have treated them as we say, symptomatically. Several cases in our territory have apparently gotten well, while some have died. I have seen two cases of the typhoidal type, both died. I read good reports from the use of soamin and salvarsan, and I note that "606" is being used with some satisfactory results. I have experienced little difficulty in controlling the skin lesions, if seen reasonably early. I use zinc and calamine in lanolin, or the simple oxide zinc ointment with a little balsam of peru is fine. Creosote in olive oil makes a nice lotion. In the more advanced conditions I have used aristol powder in the oxide ointment as a base with splendid results. I would not burden you with case reports, as

they would be of little value. I have treated some cases that have to all appearances gotten entirely well, and they insist on believing that I cured them, but I do not believe it. I have seen three cases that have apparently gotten well without any treatment at all. I do not believe that we are justified in using "606" until we know more of the etiology of the disease.

One doctor said to me "What are we going to do while this etiological work is going on. The quacks are reaping a harvest. Should we not tell the public that we have a specific and try to hold their confidence till we can arrive at some facts in the matter?" I say no, of course, but I admit that we should be active in some way to protect the public. In my own county a quack who is so illiterate that he spells pellagra with one "l" and in his circulars states that "Dr. P-e-r-r-y" was successful over Dr. Cook in his discovery of the Pole, and why question the discovery which he himself has made.

In conclusion I desire to thank the society for the invitation and for the privilege of presenting this essay.

PELLAGRA.*

By S. B. SNYDER, Jellico, Tenn.

For more than 200 years the etiology of pellagra has been a subject of serious inquiry. This problem, formerly an Old World question, now concerns us and it still awaits solution. It is now found in one-half the States of the Union and is quite prevalent in this locality.

The causation of pellagra is purely conjectural. An immense amount of work has been done by worthy investigators, but as yet its real cause is unknown.

The solution of this problem has been, at various times, proclaimed, but subsequent investigation has failed to furnish corroborative material.

Three theories have been advanced as to the cause of the disease: (1) the zoistic theory, based on the work of Ballardino in 1845, giving corn poison, due to the excessive use of corn products as the cause. This theory has been for years, and is now, most ably maintained by Prof. Lombroso of Turin, Italy.

(2) The cotton-seed products poison theory of Mizell, who argues that the advent of pellagra is due to excessive use of cotton-seed oil.

(3) The sand-fly theory of Sambon. The first two rest on the theory of malnutrition, the last on the action of a parasite. This is the theory that is likely to be finally accepted. Confirmation of this theory seems to be

*Read before the Whitley County Medical Society.

nearer every year since its first announcement two years ago.

Investigation shows a much wider distribution of simuliid or sand-fly than was at first believed. The facts on which this theory rests may be summarized as follows:

(1) The endemic centers of pellagra in Italy have remained the same since the disease was first discovered.

(2) The season of recurrence of pellagra coincides with the season of the full-fledged sand-fly. If the spring is early or late, making the appearance of the sand-fly early or late, pellagra cases are correspondingly early or late.

(3) In centers of pellagra infection whole families are attacked at times simultaneously.

(4) In non-pellagrous districts the disease never spreads to others with the advent of a pellagrin from a pellagrous district.

(5) If a family move from a pellagrous to a non-pellagrous district, the children born in the pellagrous district become pellagrins, but children born after removal never develop the disease.

(6) The disease is not hereditary, though very young infants may become infected, especially if taken to the fields where the mother works during the sand-fly season.

(7) Pellagra is not contagious, but is transmitted to each individual by an infected sand-fly, just as yellow fever and malaria are transmitted by mosquitoes.

THE DIAGNOSIS OF PELLAGRA IN PRONOUNCED CASES.

Having the pellagra triad of cutaneous, gastro-intestinal and nervous phenomena presents no difficulty, but cases are not uncommon in which the diagnosis is involved in much doubt. Outside of the erythema, there is no distinctive lesion of the disease, hence the diagnosis must depend on the "lights and shadows" of the clinical picture.

Early diagnosis is of much importance. The most important medical problem now occupying the pellagologic field is, without doubt, that of establishing an early diagnosis. Without this it is impossible to arrest or ameliorate the harmful effects of pellagra which seem fatally inevitable. Such a diagnosis too frequently involves many doubts and difficulties. Diagnosis necessarily is often tentative and treatment begun accordingly.

History of the case usually elicits mild mental disturbances such as dyspepsia, change in appetite, thirst or diarrhoea or constipation in the beginning. Diarrhoea is one of the most universally constant symptoms, and stools are often involuntary. Vertigo, insomnia, with headache, burning in the mouth, oesophagus and stomach sometimes hands and

feet. Pyrosis is a very constant symptom. Lombroso says, "Pyrosis is never absent."

Formication or a sensation of hands around the body sometimes precede the eruption.

General malaise, with muscular weakness, especially of the lower extremities, loss of weight, lowered physical, nervous and mental vigor are suggestive, but not peculiar to this condition.

The importance of an early diagnosis has led to a search for some characteristic blood or serum reaction, as the Widal reaction for typhoid, but has so far proved unreliable. The skin lesion from which the diagnosis is made, is said to be the most prominent and least important symptom of the disease. It is still a debated question whether we can have pellagra without the skin lesion (pellagra sine pellegra). Most observers give the cutaneous lesions the same diagnostic value as those of scarlatina, measles, variola. The characteristic symptom is a dermatitis, an erythema on the hands, face or feet—parts exposed to the sun. The distinguishing character of the eruption is its perfect symmetry, if it extends to one elbow, it is as sure to extend to the other, if it occurs on one foot, it develops at the same time on the other. The eruption may be either moist or dry—severe cases being moist and extending deeper.

After a variable time the eruption desquamates, leaving the surface soft, velvety and glistening, quite a contrast to the dirty, unwashed appearance of a few weeks before. The erythema soon reappears and follows the same course as before. This may occur several times during the summer. As a result of these repeated inflammations, the skin becomes hard and wrinkled, frequently deep fissures occur, especially on the fingers. Portions of the body subjected to pressure by the clothing show the eruption in some form.

The eruption begins in early spring and lasts until July, August or September, then disappears, to make its relapse in the spring—sometimes a relapse occurs in October.

The crowning characteristic of the eruption is its symmetry and color. After the pigmentation has been expoliated, a dirty, motley fringe remains, showing the extent of the dermatitis; in the colored race the pigmentation is increased, having the appearance of having had soot rubbed into the skin, but persistent efforts with soap and water fail to remove the dirty appearance.

The first symptom for which the physician is consulted in mild cases is a "sunburn" that refuses to yield to cold cream, or other household remedies.

In the treatment much is to be desired. Every practitioner feels that he has a treatment that does good—at times. Treatment of

pellagra is becoming the rich field of the itinerant, swindling quack. In pellagra, as in all incurable diseases, when honest, competent, conscientious physicians give an unfavorable prognosis, the faker proceeds to fleece the poor victim. In this county a physician who is supposed to be regular is associated with a charlatan, advertising and peddling a "sure cure" for pellagra. The stuff is worthless for pellagra or for anything else for that matter.

The treatment must, of necessity, be largely symptomatic, sulphid of calcium has many advocates, given in 1-2 to 2 grains, four times daily is said to be specific. (Mizell) Arsenic has its advocates, given as Fowler's solution up to physiological effect. I have used this with good results. Injection of salvarsan has been rather disappointing in the hands of competent observers.

Transfusion of blood from a recovered case has been very successful in many cases.

Until the true cause has been found, the treatment must be more or less unsatisfactory.

References, *Marle*, various issues J. A. M. A.

SERUM AND VACCINE THERAPY.*

By O. P. CHAPMAN, Port Royal.

In the beginning of this brief paper I want to say that if the length of this discussion depended on the writers' personal experience the paper would be very brief indeed.

That certain diseases are communicable and that in many such diseases one attack renders the individual immune to subsequent attacks, has been known since the dawn of medicine; but it was left to our generation, through the development of the science of bacteriology, to work out the causes of disease and the nature of the immunizing mechanism, thus teaching us how to take advantage of Nature's immunizing process and to apply it as a prophylactic and curative agent.

Pathologic bacteria whose vitality has been destroyed by heat and suspended in physiological salt solution are called bacterins or bacterial vaccines.

Serums are the liquid portions or serum of the blood of animals that have been treated with gradually increased doses of bacterial toxins or attenuated or killed cultures of the organisms themselves.

The results of the bacterial growth are called toxins.

Behring was the first to bring out this immunizing process as a therapeutic measure by the application of antidiphtheritic toxins in the treatment of diphtheria.

The results of his experiments were so striking that it was at once supposed that serums

could be produced that would have the same brilliant effect on all other infectious diseases, in this we have been doomed to disappointment for many of the other micro-organisms when so treated do not respond like the diphtheria bacillus.

Various theories have been advanced to explain how the immunizing bodies are formed in the human body; Klebs and Pasteur claim that certain substances necessary as food for the bacteria, when exhausted immunity necessarily follows.

Chanceaux says that products in the body which protect the body tissues from further invasion by the particular parasite.

Metchnikoff holds that immunity was obtained by the ability of the white blood cells of certain organs of the body to engulf and destroy the invading bacterium.

Fodor believes the normal body fluids and especially the blood, contain substances that are able to destroy bacteria.

Chamberlain, Foa, Renome, Roux and others think that body tissues are chemically changed in immunization.

However, the "side chain" theory of Ehrlich, which he advanced in 1897 is the one generally accepted as explaining the immunity produced by the antitoxins, he supposed that the complicated proteid molecules in living matter contains many groups whose function it is to attract food substances into the molecules, when such a group combines with the toxine, the combination being injurious to the proteid molecule, is thrown off, similar groups produced to supply the deficiency are likewise thrown off, the molecule in this way acquires the power of group production, these groups being produced in excess of its demand, some of the extra groups are contained in the blood stream and the serum containing them is called antitoxine.

Their affinity for toxines and their power to render toxines harmless is the secret of their ever increasing use in medicine.

Wright concludes from the investigations that the blood serum contains a substance which has a sensitizing effect on the invading organisms and that this substance is naturally increased during the immunizing.

The bacteriologic substance has been termed an opsonin. Wright noting the phagocytic power of the blood as demonstrated in the incubated test tube was led to make many more extended investigations as to the opsonic power of the blood of man under various conditions.

By an extended process, which we have not time nor space to take up in this paper, he arrived at a measurement and calls it the "opsonic index", he also found by taking the opsonic index at short intervals, that when a sufficient number of previously sterilized path-

*Read before the Henry County Medical Society.

ogenic bacteria are injected under the skin, the immunizing power of the blood is aroused producing more opsonins and likewise resulting in an increased phagocytosis.

Repeated opsonic readings, furthermore, showed that the increased destroying power resulting from a single dose of vaccine would continue from five to ten days or more and that if the inoculations are repeated at proper intervals this immunity would become permanent.

What is said of vaccines may also be said of serums in a great measure, by some it is claimed that the serums are more useful in acute general infections, while vaccines are giving better results in localized and semi-localized infections.

We are all more or less familiar with the splendid results in the use of smallpox vaccine and antidiphtheria toxine but in the use of tetanus antitoxine, antimeningococcus, antipneumococcus, antistreptococcus serums and tuberculin some of us have had but little personal experience.

These and some other products have given satisfactory results in the hands of many doctors.

Vaccines and serums are not infallible, they have limitations and while they yielded brilliant results in selected cases they should still be regarded as auxiliary means of treating infectious diseases and as supplementary to other resources of up-to-date surgery and medicine.

VACCINE AND SERUM THERAPY.*

By S. D. TAYLOR, Beaver Dam.

Vaccine and serum therapy, defined in a general sense means the introduction into the system of killed pathogenic organisms or their products; for the prevention and cure of infectious diseases produced by like organisms; they are also used for diagnostic reactionary evidence of infectious diseases an example of which is seen in tuberculosis with the several tests made with the tubercular vaccine.

Vaccines and serums are most generally prepared in the laboratory for immediate use, the so-called stock products from animals and the human subject that are immune or convalescent from the infectious virulent bacteria and their products; they are also obtained from other substances and cultures from other media. These differ from the autogenous vaccines which are prepared from cultures of bacteria obtained from the patient direct and administered back to him for immunizing purposes.

These products are prepared under strict aseptic conditions carefully standardized and

tested as to purity and efficiency; so that definite doses may be administered and certain therapeutic effects may be expected under proper conditions in a given case.

While this is a comparatively new field in therapeutics, the principles involved dates back many centuries, when it was known that an attack of certain infectious diseases conferred a partial or complete immunity to a recurring attack of those diseases.

Inspired by this knowledge Jenner, in 1798, was led to conduct his experiments upon cases of small-pox which resulted in the discovery of an artificial immunity to that disease by producing the variola vaccine, at which time he also published a report of his investigations entitled "An inquiry into the cause and effect of Variola Vaccine."

Koch, in 1890, was the first to attempt to cure an infectious malady by a specific, viz.: of tuberculosis by means of tuberculin, since then scientific research and clinical study has done much to elucidate this phase of medicine and establish it upon a scientific basis.

A new era has dawned in medical therapeutics, and the profession is now able to offer hope to those suffering with infectious diseases that only a few years since would have been doomed to life-long suffering or an untimely death.

"The principles underlying this treatment is based upon the reaction between the invading virulent bacteria and its secretory products; the toxins upon one hand; and the body defenses upon the other."

For an infection to occur, the bacteria must gain entrance into the body through some avenue adapted to their cultural requirements; which are most generally found in the skin and mucous surfaces; at points where the body defenses are the weakest.

However, not all pathogenic bacteria that enters the body gain a foothold and produce an infection; since the tissues, fluids and cells of the body, if healthy, have at their disposal certain general elements or body defenses, that will overcome the invading foe, provided the number is not too great, or the bacteria too virulent in character.

Bacteria after gaining entrance into the body are either localized by the cell protectors, and produce their effects by the toxins which they secrete and which are absorbed by the lymphatics; or the bacteria get directly into the lymphatic system and blood current and produce a bacteremia.

The toxins of bacteria are the secretory products of the bacteria which pass in to the culture media during the life of the bacteria. The bacteria which secrete toxin in the media in greatest abundance are the most virulent; examples of which are seen in the tetanus and diphtheria bacilli. There is another class of

*Read before the Ohio County Medical Society.

bacteria which give up their toxins to the culture media very sparingly, in this case the toxins remain attached to the bacterial body, such poisons when separated from the bacteria after death of the bacilli are termed endotoxins; and the greater number of bacteria seem to act by means of these endotoxins; examples of this class are seen in the typhoid bacilli and the cholera vibrio.

Bacterial bodies after removal of their toxins and endotoxins have a certain proteid residue remaining; called bacterial protein, which though without special toxic properties is capable by its chemical effects on the white blood cells to produce pus formation.

The elements of the body defense or the natural immunity to infectious disease may be considered under the following heads: 1st. The protection afforded by the body surfaces; the skin and mucous membranes, which owing to their structure and peculiar secretions, offer strong opposition to the invading microorganism. 2nd. The protective nature of inflammatory products, when the pathogenic bacteria enters the tissues of the body an inflammatory action is immediately begun; when mechanically through the formation of new connective tissue, and a dense accumulation of leucocytes and fibrin around the focus of infection the invaders are walled off from the surrounding health structures. 3rd. Through the antibacterial and antitoxic action of the lymph and serum, which contains natural antitoxins and in addition they are said to lessen the toxicity of the poison by diluting them and eliminating them from the body. 4th. By the phagocytes, which ingest and destroy the offending bacteria, while at the same time they may absorb bacterial poisons and in some way destroy their toxicity. 5th. By the opsonins, which are produced by subcutaneous and muscular activity, and which in some manner increase the power of phagocytes to destroy the bacteria.

A bacterial vaccine or bacterin is a pathogenic bacteria which has been destroyed by heat and held in suspension in a normal salt solution and kept by a preservative. The effect when administered is to increase the destructive power of the patient's leucocytes against the specific virulent bacteria. In other words, the injection of a dose of bacterial vaccine stimulates the patient's body to manufacture a greater supply of antibodies and thus enables him to resist disease-invading germs; thus conferring an active immunity to the specific disease. Their therapeutic value lies in preventing the invading pathogenic bacteria from gaining a foot-hold on the tissues of the body and in localizing them after they have gained an entrance; for example in the early stages of puerperal sepsis before general sepsis has taken place, strep-

tococcus vaccine is indicated. They are indicated in all local affections; as the gonococcus vaccine in gonorrhoea; and the staphylococcus vaccines in the treatment of acne, syecosis, furuncles and carbuncles.

Infection by the staphylococcus bacteria are considered most amenable to treatment by vaccines as these bacteria have but feeble toxic powers upon the resident cells of the body; as they exert their influence most upon the red blood cells; and if we stimulate the formation of antibodies in the blood and cells of the body by injecting dead germs of the pathogenic organism, the invading germs are deprived of their cytolytic properties and the body forces are so increased that they can no longer exist.

Frequently we have a mixed infection caused by more than one kind of pathogenic organism operating in the same field at the same time, here a mixed vaccine is indicated to meet conditions in the special case.

While vaccines have yielded splendid results in select cases, they are by no means infallible and are regarded as auxiliaries to other measures of up-to-date medicine and surgery.

Serums are prepared from the liquid portions of the blood of animals, that have been treated with gradually increased doses of bacterial toxin or the attenuated killed cultures of the pathogenic organisms themselves.

The mode of preparation corresponds to the well-known law of Koch: 1st. There must be a preparation of toxin or the attenuated culture of the bacteria.

2nd. The toxin or culture must be injected into animal which renders the animal immune, the serum is taken from that animal and contains the antitoxin.

3rd. The serum thus obtained from the infected animal is now carefully prepared for use.

Serums are indicated when the condition of the patient is such that he can not supply his own antibodies to nullify the effects of the bacteria and its toxins. When it becomes necessary to supply them by means of serums which contain the antibodies thus conferring a passive immunity to the disease.

Serums are indicated in all general acute infections and have produced most brilliant results, as has been demonstrated in diphtheria and tetanus and many other infectious diseases. They are used for immunizing purposes; in this they are said to have the same effect as when administered for their therapeutic action; in that, they supply the necessary antibodies to the patient thus conferring for a time on active immunity to the disease. For their immunizing effects they should be administered as soon as possible after exposure to the disease.

The deleterious effects of bacteria may be

exerted in two ways: One secretes its poisonous substances into the blood serum, which are soluble and are diffused throughout the body and are responsible for the symptoms present in the disease; an example of which is seen in diphtheria in which about 90 per cent. of toxine is absorbed into the serum and 10 per cent. remains attached to the pathogenic organism in the form of endotoxine. In this class of infection an antitoxine is indicated to neutralize the toxine present. Another class of bacteria produce the poison within themselves and which remains attached to them; these are known as the endotoxic bacteria, an example of this class is seen in the streptococcus bacilli which produce 90 per cent. of endotoxine and only 10 per cent. of soluble exotoxine. In such cases it is readily seen that an antitoxine serum is of little use to combat the endotoxine, and the bacteria must be overcome by an antibacterial agent which destroys the bacteria themselves. In other words we must resort to active immunity in contradistinction to passive immunity acquired in such diseases as diphtheria.

As a summary to the study of vaccine and serum therapy, it is necessary to consider: 1st. What constitutes the elements of the body defense against the invading pathogenic bacteria.

2nd. To understand the nature of the invading bacteria and the effects of their secretions upon the fluids and tissues of the body.

3. To understand the therapeutic action of vaccines and serums; that vaccines act by stimulating the body to manufacture its own antibodies to defend itself from invading germs of disease; that serums supply the antibodies artificially when nature fails to do so.

4th. To understand that some bacteria produce toxins, while others secrete endotoxins and that we should carefully differentiate between one class and the other; so that we may apply the agent best suited to the individual case.

THE EARLY RECOGNITION OF TUBERCULOSIS.*

By J. O. MCKENNEY, Taylor Mines.

There is no disease where the early recognition counts for more than in pulmonary tuberculosis. From ten to fourteen per cent. of the mortality from all causes is due to tuberculosis, a higher percentage than is attributed to any other disease and from eighty to ninety per cent. of those who die could be saved if the cases had been recognized in its incipency.

It makes no difference how much we educate the laity in the prevention of tuberculosis,

if the physicians do not make a more thorough study of this disease and learn to recognize it in its earliest stages. Physicians should study tuberculosis more than any other condition since it causes a greater mortality. In making a diagnosis of tuberculosis we must first realize there is no combination of physical signs common to all cases—percussion and auscultation may be entirely negative. The contour, shape and size of the chest may not give any information and we may have only a small group of symptoms to guide us in our diagnosis. Yet by using everything within our power and grouping all the evidences, such as family history, personal history, predisposition, subjective symptoms and physical signs, we can usually make a diagnosis.

Some author divides the early cases of tuberculosis into three groups which will include most of the cases. The first group, a persistent slight cough with or without a little morning mucopurulent expectoration, with an afternoon temperature of 99 to 99.5. On examination there is usually found a slight high pitched percussion note in the supra-clavicular, infra-clavicular or upper inter-scapular region, and the apical outline is a little narrowed on the affected side. The breath sounds may be normal or harsh with prolonged expiration. A few fine rales are heard at the end of deep inspiration. Tubercle bacilli are not often found but in few cases repeated search may demonstrate them. With these symptoms and a positive tuberculin test you are able to make a diagnosis. The second group are patients complaining of feeling run down, their appetite has fallen off, they have indigestion, and sleep badly. They may have no cough or expectoration and no fever. They usually have lost some weight. The physical signs are generally like those of the first group. Sometimes the apices are normal but persistent rales on abdominal breathing are present in the fifth and sixth interspaces below the nipple or in the infra-axillary space. A wavy inspiratory murmur may be present. There is usually tenderness on pressure in the interspaces. The tuberculin tests have the same value as in the first group. In this group I would like to call special attention to a class of neurasthenias. There is no disease in which neurasthenia is as common as in tuberculosis. The tuberculosis poison has a powerful action on the nervous system and every variety of functional nervous system may result from it. Neurasthenia, therefore, should never be classed as such without a careful physical examination and daily temperature record and if the results are at all suspicious, a tuberculin test.

In the third group the onset is with a pleurisy; it may be dry or associated with an effusion; fever is usually present but may

*Read before the Ohio County Medical Society.

be absent; cough may or may not be present. The majority of these patients react to a tuberculin test; it is now generally conceded that spontaneous pleurisies are tuberculous in origin in most cases.

These three groups include the majority of early cases. Of course the disease may develop in many other ways, but these three might well be called basic groups. The two conditions which cause the most confusion in the early recognition of this disease are neurasthenia and influenza, but by careful examination, taking a daily temperature and using the tuberculin test we are able to differentiate.

The most important of the special aids to diagnosis are tuberculin tests. Of this test a great deal has been written for and against its value. But the weight of opinion inclines to the exceeding value of these tests. A positive result being strong evidence of the existence of tubercular infection in some portions of the body. The reaction is found to be more pronounced in recent cases and comparatively slight among the far-advanced. The tolerance among the latter suggest an effort of nature toward the establishment of an immunity.

There are three different tests that have been used. The subcutaneous, the cutaneous and ophthalmic, the subcutaneous and ophthalmic are being discarded on account of the possible danger that may attend their reaction. The cutaneous tests are called the Von Pirquet and Moro; the Von Pirquet test consists in making an abrasion through a drop of a 25 per cent. solution of Koch's Old Tuberculin previously placed upon the skin. The test is usually performed on the forearm for the sake of convenience. In event of positive reaction the area becomes red at the end of 12 hours; maximum hyperemia usually about the twenty-fourth hour but may be delayed from thirty-six to forty hours.

The Moro test consists of an ointment of 5 cc. of K. O. T. and 5 grams of lanolin base, a small portion of this being rubbed on the chest or abdomen over an area of four square inches. A positive result is characterized by a papular eruption over area of inoculation.

Febrile Tuberculosis and Tuberculin.—With a good tuberculin and proper care, seconded by some experience of the tuberculin treatment and incessant surveillance, Renon says the treatment of slightly febrile cases of tuberculosis (37.4 to 37.8 C.) may be undertaken without undue risk; but in general practice, to treat really febrile cases of the disease with tuberculin, without the requisite experience, is to expose the patients to serious dangers and possibly to create insurmountable obstacles to a successful treatment.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

By W. M. HYATT, Springfield.

Tuberculosis may effect any organ in the human body, but what I shall have to say will be directed to what we know as consumption of the lungs, a disease with which we are all familiar and which is, perhaps, more prevalent than any other form. In every age, and race and clime, in the old, the middle aged, and the young; in the mansions of the rich, in the homes of the great, middle class, and in the hovels of the poor; in the city, the hamlet, and in the country, we find the Great White Plague, the disease that causes one-seventh of the deaths of mankind. All over the world there is greater activity than ever before in organizing societies for the prevention and cure of tuberculosis and these are composed of both physicians and laymen. Governments are taking an active part in the movement and laboratories are being founded for the study of the disease, maintained by private and public munificence. Such a disease should command the attention and most careful study of every practicing physician. In perhaps no other disease is early diagnosis of so much importance. When well advanced the disease presents a picture so plain and unmistakable that even the laity readily recognize it. It is the incipient disease that we as physicians should recognize and what is said will be entirely confined to those signs and symptoms of the earliest stages.

The presence of the tubercle bacilli in the sputum is an infallible indication of the existence of tuberculosis, and since this means of arriving at diagnosis is within the reach of all we should use it early and often. Unfortunately negative findings are of comparative frequency. Many of the bacilli may not be stained at all; old foci may give off very few and recent foci no bacilli. By occlusion of a bronchus the contents of focus may be shut off entirely. They may be present one day and not again for months. It is best, if possible, to procure, the thick, lumpy portion of the sputum which is more apt to contain the bacilli. Since the State Laboratory is at our command, without cost, we should in any suspected case send several specimens to the laboratory.

In regard to tuberculin which is used both for diagnosis and treatment, it is generally admitted that the value of this agent in the obscure cases has become more and more firmly established, and its harmlessness, when properly used, has been proven by the results in many thousands of cases. Dr. G. Cornet, of Berlin, states "that the injections of tubercu-

*Read before the Washington County Medical Society.

lin often clear up the diagnosis in cases which baffle every other means at our command." It is generally admitted that Koch's old tuberculin is still the best preparation to be used. This agent should not be used in cases with high fever and so far as I know, it has not come into general use in this country among general practitioners. The danger from the use of the tuberculin test is slight, but in some unsuitable cases it is very real and possibly severe. After much experimenting the consensus of opinion seems to be that the subcutaneous test is the most trustworthy of the tuberculin tests. For the general practitioner, exposure to infection, characteristic symptoms such as fever, hemoptysis, pleurisy with effusion, dry pleurisy on both sides, and localized persistent physical signs at one apex are diagnostic data of far more importance in pulmonary phthisis than that derived from the tuberculin tests. The early symptoms of consumption are often obscure and misleading and we reach a correct diagnosis only after the patient's best chance is passed.

In the disease under discussion, particularly, it is not so much the things we know as the things we do that count for the relief and cure of those afflicted. The pessimistic attitude of the physician in regard to phthisis many times leads to neglect of the golden opportunity. The alert and active physician will be ever ready to apply all of his knowledge and to follow up every single sign and symptom presenting itself to him. It is our duty to prolong and save human life and nothing short of eternal vigilance constant, and earnest endeavor should satisfy the medical man.

In any suspected case we should get as complete history as possible, as to exposure, family history, occupation, environments and sanitary surroundings. The fact that the history gives no positive results does not in any way speak against the disease and we should therefore examine the patient by inspection, palpation, percussion and auscultation, these physical signs being as usual routine and always important, so they will respectively be briefly referred to.

By inspection in the early stages, we may find very little alteration of the external appearance. The patient may have every appearance of health and vigor and yet the bacilli may have been at work and have done considerable damage. Inspection is of no value without the patient's chest is bare or covered only with one garment. In many cases the characteristic deformity of the chest does not precede the disease but is rather the result of it, being due to the loss of the supporting tissue, especially the muscles and the fat.

Palpation generally confirms certain con-

clusions suggested by inspection. If both hands are placed on the thorax the diminution on the effected side becomes even more evident than by inspection.

Palpation also reveals an increase of fremitus when the patient is told to speak loudly. The important element is the difference between symmetrical areas on the two sides of the chest, and the more the process advances, the more marked do these phenomena become. "Disease at the apex, though early, and before dullness is at all marked, may be evidenced by deficient expansion." On asking the patient to count there is increased tactile fremitus whenever there is a local growth of tubercle or extensive caseation, but in comparing the apices it is important to bear in mind that normally the fremitus is stronger over the right than the left.

Percussion in the early stages of the disease very often fails to give definite knowledge. The effect of very small areas of consolidation upon the percussion note is counter balanced by the surrounding healthy portion of the lining tissue. In the early stages the percussion note is usually higher in pitch and may require an experienced ear to detect the difference. Authorities state that the individual tubercle requires two or three weeks for development, so it is easily seen that considerable time must elapse before a tuberculous focus can attain anything like the size necessary to become manifest through percussion. However, Osler states that "one of the earliest and most valuable signs is defective resonance upon and above a clavicle."

In auscultation we often have an early sign of great importance. The German authority, Dr. Cornet, says in his work that "the changes which occur in the auscultatory phenomena are second only in importance to the finding in the sputum."

Among the most characteristic early auscultatory signs are feeble breath sounds, the prolongation of the expiratory murmur and rales, the latter being most important and very often present before there is any changes in the respiration. "If rales are constantly found, even though in limited numbers, over one of the apices and at a fixed position, there can be scarcely a doubt of the diagnosis of tuberculous catarrh of the apex."

Under the local subjective symptoms there are cough, expectoration, pulmonary hemorrhage, dyspnea, hoarseness, dysphagia and pain.

Under the constitutional symptoms there are the blood, fever, circulatory apparatus, skin, sweating, alimentary tract, emaciation, urinary tract, and nervous and mental symptoms. It is not my purpose to discuss these symptoms in detail, first because of lack of time, and second because many of them are

unimportant in making a diagnosis in the incipient stage. While some of them, as cough, hemoptysis, fever, sweating, and hoarseness are often present early and their discussion would perhaps be of interest, there is only one of these symptoms that attention will be called to, and that is the fever, being according to my own observation and experience the most important early symptom in the diagnosis of consumption.

The great importance of this symptom warrants the utmost care in determining it, and since it requires no special training or skill there is no excuse for the physician to overlook it.

In speaking of the importance of this, as an initial symptom I wish to quote as follows: Osler says, "Fever is the most important initial symptom and throughout the entire course the thermometer is the most trustworthy guide as to the progress of the affection."

It was present in 100 consecutive cases in his dispensary practice. "In the early stage when tubercles are developing and caseous areas are in progress of formation and when softening is in progress, fever is a constant symptom."

Tyson says "fever is probably always present in the beginning—the fever of onset." Dr. Cornet says: "Closely connected with the absorption of poisons by the blood is the appearance of fever which outdoes all the other symptoms of phthisis in importance."

However, it must by no means be understood that every patient with consumption must have fever at all times throughout the course of the disease. While the initial fever follows no definite and constant type, as in other infectious diseases, the rise will most often occur between 2:00 and 6:00 p. m. It is very generally the rule in private practice, in institutions and in clinics to measure the temperature three times a day. Dr. Cornet states that "after fourteen years of observation directed to this point, I venture to state that in a large number of cases this does not register the temperature with sufficient accuracy." He has observed a great number of consumptives who had a range of temperature of 97.8 degrees at 8:00 a. m., 98.6 at 12:00 and 98.4 at 6:00 p. m., in other words, an apparently normal temperature, whereas a two hourly measurement showed a rise of 99.8 degrees and over at 3:00 p. m. This small rise may betray itself by a feeling of discomfort, or may run along for weeks unnoticed. It seems, therefore, far more reasonable and important to take more frequent measurements in order to detect the rise before it becomes pronounced and before the danger is already done. As the physician cannot take the temperature in person every two or three

hours, the patient must learn to do so himself and it is rare we find one unable to master the art. It is very often possible and even better to have some member of the family or nurse to attend to this and it is no doubt best to sometimes keep the patient ignorant of the true condition, but we cannot afford to sacrifice all our intelligent patients for the sake of those who develop an actual mania for the thermometer, and we certainly do sacrifice them unless we recognize the pyrexia in time. Our main object in taking the temperature is to find that there is a rise of temperature above the normal, the time of day that this occurs being of minor importance.

A temperature of 99.8 degrees to 100 degrees which is intermittent but obstinate and which increases on exertion indicates tuberculosis, aside from some other known condition or disease.

The books describe the different types of fever, the remittent, the intermittent fever with and without chills, and continuous fever, the fever of acute miliary tuberculosis but it is unnecessary to discuss these varieties as they are well known to all and these forms are usually accompanied with other symptoms which when taken altogether enable us to recognize the disease. There is no possible doubt that many of these early cases are overlooked, not from lack of knowledge, but from failure to apply and utilize it.

If we, as physicians, can know of one human being whose life has been prolonged for a year, or ten years, or perhaps restored to health, through our knowledge and efforts; if we by patient skill and watchful care in the sad hours of sickness, can cause the "rainbow of hope to shine through tears of grief" the dark pathway that leads to the temple of Esculapius will be lighted by the stars of gratitude and love and not far beyond the gate we may behold the Great Physician who will say to us "well done thou good and faithful servant." If we can destroy and dispel the countless hordes of deadly germs that lurk and live in millions of mankind we shall save more lives than all the shot and shell of all the world have killed.

We feel and know that the great clouds of lethargy hovering over the multitude of men afflicted with the Great White Plague, are lifting and the sunlight of hope and health is shining brighter and brighter and is dispelling the mists of doubt and dread.

TUBERCULAR PLEURISY.*

By A. D. WILLMORN, Louisville.

My reasons for reporting this case is not because of the rarity of it, but because of the frequency and the difficulty heretofore experienced in being able to relieve this class of unfortunate sufferers.

The following case will serve to illustrate a typical case also to illustrate what can be accomplished by the handling of such cases by a new method. Many of you no doubt have seen this treatment mentioned occasionally in your journals and those of you who were present in Paducah at the last meeting of the State Society will recall Dr. Murphy's mention of it in referring to conditions of the joints. It was a remembrance of this that prompted me to write Dr. Murphy asking the details regarding the treatment of the following case.

On January 26th of this year, I was asked by Dr. J. A. Flexner to see with him the following case: Miss H., white, age 27, ill since the 25th, who presented the following picture and gave the following history: Family history, parents living, one sister and two brothers living and in good health, one brother died of heart trouble, exact nature of which is not known. One sister died of tuberculosis some three years ago.

Personal history, five years ago this young lady had a severe attack of pneumonia involving the lower portion of left lung, from which she had a slow recovery and following which, at varying intervals, she would complain of severe pains in the side which she had been told was an intercostal neuralgia and for the relief of which the various neuralgia agents were used. On two or three occasions this pain was accompanied with a slight rise in temperature up to about 100 and the pain itself severe enough to confine her to her room for as much as one week.

On examination the following clinical symptoms were obtained: That beginning on January 25th, or three days previous she was taken with intense pain located near the mid-axillary line and radiating around in front, temperature rather steady and about 101 1-2, pulse from 100 to 120. Respirations about 25 to 30. Patient nervous, anxious expression and showed the effect of pain. Physical examination revealed an area of dullness beginning about one inch anterior to the mid-axillary line and extending nearly to the spine at the upper portion and beyond the spine in the lower portion, making a typical Green's triangle. This dullness extended from about the ninth rib up to about the third. Over this large area was increased vocal fre-

mitus. Almost a typical egophony could be heard over the entire area. No bulging of intercostal spaces could be elicited nor would changing of the position change to any appreciable extent the line of dullness.

We were both, however, firmly of the opinion that a fluid was present, (even though the pain had not entirely ceased) and had been forming for at least five or six days. To confirm the diagnosis and also to remove whatever we found in the pleural cavity I introduced under a cocaine anaesthesia a medium sized aspirating needle which was attached to the ordinary 3 ounce aspirating syringe. The puncture was made about three inches posterior to the axillary line and between the sixth and seventh rib. We were rewarded for our efforts by the withdrawal of 10 1-2 ounces of straw-colored fluid.

This relieved the breathing and made the patient much more comfortable and reduced the temperature down to 100 for the next three days.

There could be no question but what this was a case of tubercular involvement of the pleura with little or no involvement of the lung tissue proper since there was no cough except the short hacking due to temperature.

It was at this time that I communicated with Dr. Murphy to know if he was still as enthusiastic over the injection of the formalin solution as he was in October. He informed me that he was and that if I had occasion to use it to use 4 drachms of a 2 per cent. solution in glycerine. Inject this in the pleural cavity after withdrawing all the fluid I could wait ten days aspirate again if the fluid came away clear reinject, if it was blood, leave it alone.

Four days had now elapsed since my first aspiration and the patient's temperature was now going up to 102 1-2 each afternoon but the physical signs did not warrant another aspiration. Six days later, however, we had all the signs of a re-accumulation with a temperature of 102 1-2 and a pulse of 120. Under a local anaesthesia I again aspirated and removed twenty-four ounces of the same character of fluid as before; after removing all the fluid I could I injected through the same needle 1 drachm of a 2 per cent. solution of formalin in glycerine, which I had had prepared twenty-four hours previous and had it shaken frequently to be sure it was thoroughly mixed. The injection gave intense pain, feeling as though hot steam had been forced into the cavity, requiring a small dose of morphine to give relief. This was about 11 a. m. at 5 p. m. I saw this case again and to say that I had gotten a reaction would be putting it mildly, respiration about 30, pulse 120 to 130 and the temperature 104. With an abiding faith in the one who had advised this and

*Read before the Muldraugh Hill Medical Society.

with a patient whose confidence was not to be shaken, I felt all would eventually end well. This temperature continued for five days but the local condition in the side was plainly getting better. After five days the temperature stair-stepped down to the normal, requiring about two weeks for it to reach the normal both morning and evening. This patient was in bed six weeks and three days and weighed when she was able to get up about 100 pounds. She now weighs 116 1-2 and is steadily gaining and has every appearance of being on the road to a complete recovery. At the end of three weeks, at the time the injection was made, the normal breath sounds could be heard over the entire area. In other words it had cleared up.

I am indebted to Dr. Flexner for the privilege of reporting this case, also for his valuable suggestions in regard to the diagnosis and to the management of this case as regards the medical aspect.

I regard this as a complete cessation of symptoms due to treatment. In other words, I regard it as one of my best results and I commend the treatment to you.

DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS.*

By EVERETT MORRIS, Sulphur.

There is no disease so prevalent as tuberculosis and none that needs a diagnosis so early. This widespread distribution can best be reduced by education. "Consumption" should be written on the door plate of every American home, instead of in the family Bible under "Deaths." The emblem of this disease should decorate the stained windows of every church and "tuberculosis" should be the one word into all ill ventilated buildings. Peace conferences and arbitrations are commendable but the great destroyer of man is not the battlefield but the "bugs". It is important to teach in your kindergartens, by charts and pictures, all that can be understood about tuberculosis. In your public and high schools teach from text books and in your colleges and universities establish a lecture course on public hygiene. It is also necessary to prevent public opinion from swinging to the other extreme, viz.: phthisiophobia. This can easily be avoided by teaching the harmlessness of a careful person suffering from tuberculosis.

Tuberculosis is communicable; then it is preventable, and if preventable, it is curable; this proposition necessarily places the burden on preventive medicine. Since tuberculosis is not, as a rule, congenital it is within the province of preventive medicine to forestall any

implantation in a child living in unhygienic surroundings. Infection in children under three years usually overwhelms them; but if they survive they will, in all probability, when adults, realize the latency is no longer latent. The theoretically speculative assertion of Hamburger, that latent tubercular infection in childhood produces a certain degree of immunity against secondary tuberculosis, offers poor comfort.

Martha Woolstein, of the New York Babies' Hospital, analyzed at autopsies 1131 children under three years and found 16.4 per cent. tubercular. Albrecht, of Vienna, discovered 16.6 per cent. infected in 1300 post-mortems held on children under one year. It is interesting to note the uniformity in results these pathologists reached. It is also shown that as children reach puberty the rate of tuberculosis increases proportionately.

Muller in 500 autopsies on children under fifteen years, found 42 per cent with evidences of infection, while Albrecht found 50.1 per cent. in 355 under twelve years. These figures force us to ask, why not put tuberculosis in the category commonly called children's diseases? These statistics are recited to call your attention especially to early tubercular infection as regards the phthisiogenesis of adult life. Andvord believes 75 per cent. of adults suffering from tuberculosis acquired it primarily during childhood. It is a long call between seed-sowing and harvest.

DIAGNOSIS.

We prefer the word tuberculosis to phthisis since the latter means a wasting away. The condition that we want to describe is without any appreciable wasting away. If we should wait until the word "consumption" were applicable it would require no special skill to make a diagnosis and no therapeutic agent would ameliorate the condition. We must then, as progressive medical men, learn to discover this disease early and look for arrested cases, apparent cures and cures in a direct proportion to the promptness with which we make our diagnosis. An early diagnosis is not easily attained but any one of us can reach that degree of proficiency necessary if we are willing to work hard on every case that looks suspicious.

SYMPTOMS.

The earliest subjective symptoms manifest themselves in many ways and are interpreted by the laity as inconsequential. For this reason a physician does not have the opportunity in most cases, to make an early examination. Occasionally the disease reaches the second stage before any symptoms appear. Among the earliest symptoms noticed by patients is lassitude. An energetic business man will find

*Read before the Henry County Medical Society.

his usual labors a great tax on his strength but attributes it to hard work. A seventeen-year-old school girl (whose neck and upper chest are exposed to the cold of winter and whose feet and legs enjoy the fastidious silk stockings) comes to your office with a "tickling in her throat and a stitch in her side" blissfully ignorant of the fact that 90 per cent. of pleuritis are tubercular. An elevation of temperature is one of the most trustworthy symptoms as to diagnosis and important as to prognosis. This serves as a warning of the enemies' activities. Any reading between 97.8 degrees F. and 98.8 degrees F., is considered normal, a subnormal waking temperature with an elevation during the day, without a known cause is suspicious, a thermometer should be used by the patient immediately after waking, at 10 a. m., 4 p. m., 8 p. m., and never until one hour after taking nourishment, a correct record of these readings, together with the pulse taken at the same hours, should be kept while patient is under observation. Slight chilly sensations followed by fever often resembling malaria is not uncommon. Afebrile cases may baffle the best clinicians until positive evidences are discovered. Tachycardia is a very early symptom in this disease. The pulse rate, however, is usually below 110 when the patient first consults a physician. The pulse rate is the best prognostic sign we have.

Anorexia with slight or no loss in weight is quite possible.

Contrary to its insidiousness early tuberculosis sometimes manifests itself under the pseudonym "bronchitis." Any cough with the usual attending symptoms lasting longer than one month should be carefully considered.

Perhaps the first symptom to cause any alarm on the part of the average layman is hemoptysis, this is very suggestive but is must be remembered that 20 per cent. of hemorrhages are not tubercular in origin.

As to expectoration it is usually swallowed. Since many cases are closed and a large number of open cases do not expel tubercle bacilli until late, we should not wait for a microscopic examination before making a diagnosis.

Family history is negative unless two or three generations have had several cases of tuberculosis. Too much importance has been given to family history and not enough to primary infection during childhood. Previous occupation and diseases, present environments and habits are also worth investigating.

PHYSICAL EXAMINATION.—EQUIPMENT.

It is preferable to make the physical examination at our office before the routine morning office work begins, the patient will be refreshed, the roles more audible and the physi-

cian's faculties keener. With a room temperature of 75 degrees F., request patient to disrobe to the waist (examiner, of course withdrawing, if a female).

Place patient on a comfortable upholstered revolving stool facing a large window and on a similar stool seat yourself facing patient with back to light. At your right have a table one yard square on which have a record sheet (ten by fifteen inches) large enough for erytometer tracings and all other data so necessary in subsequent examinations; here keep your erytometer (lead tape 1-8x5-8x24 inches and covered with soft leather), stethoscope, calipers (for antero-posterior diameter of chest), skin pencils (for making landmarks, etc.) and a table of normals weights according to height. Both patient and examiner should be comfortable and no interruption during the examination should occur. By using tact we can soon overcome the uneasiness so often seen in women and gain their confidence. In most cases I believe it is proper to tell the patient frankly several days before the examination is made just what the possibilities are.

SIGNS.—INSPECTION.

A shoulder droop with a corresponding lagging in excursions on deep inspirations on the same side is suggestive. Any deformity of the chest should be inquired into and a well-formed thorax with a slightly marked bulging of the clavicle or flattening of the supra or infra clavicular fossae should not receive a perfunctory examination. The shape of the chest, the width of the intercostal spaces, the size of the substernal angle, complexion, teeth, nutrition, evidences of dyspnoea and scoliosis all add to the grand total—"T. B. or not to be."

Inspection of the naso-pharynx, pharynx, and larynx is important. Any obstruction in the upper respiratory tract favors tuberculosis.

PALPATION.

In the early stage this method of examination is of little diagnostic value.

MENSURATION.

In the normal chest the circumference over the spine of the eighth dorsal vertebra and a mid-sternum point opposite the fourth rib should be one-half the height. These landmarks should be marked with a skin pencil. To determine any limitation in motion measure the halves separately. The calipers placed on land marks will give the antero-posterior diameter, while the erytometer will give graphic tracings which will show any asymmetry. With the chest in repose place one end of the erytometer on the posterior landmark and mould around one side to the anterior landmark, especial care being necessary in the axilla. Mark on tape over the ax-

terior landmark and turn free end slightly back, carefully remove without spreading, then place the posterior end and the marked point at the ends of the diameter already recorded by the calipers and follow the concavity with a skin pencil. Do the other side as the first, then place it over the first and with a different colored pencil run around the inside of tape. This will show very clearly any asymmetry. Due allowance must be made, however, for being right or left handed. Then tracings are extremely helpful in later examinations, but it takes practice to be able to make them correctly. All subsequent examinations should be made on original record sheet, but with a different colored pencil.

This valuable agent has been neglected but is now being popularized by C. L. Minor, of Asheville.

PERCUSSION.

This is one of the most difficult methods of physical examinations to master since the physician has to produce the note and then interpret its meaning. As one gets an idea of pulmonary resistance only by using a finger for the pleximeter as well as one for striking this method is preferable. The three essentials for perfect technic are: the use of only the finger and wrist joints, a vertical stroke of the percussion finger and an immediate recoil. It is imperative to percuss lightly especially over apex in front. Over thick muscles and much fat percussion is well-nigh useless. It is important first to outline and mark with a skin pencil the apices and bases. The latter should be done during shallow, and at the end of deep breathing, as this will give an idea of the utility of the bases. It is to be remembered that the field of resonance between the internal and external lines is much larger than the true anatomical apex; but diminishes in the same proportion as the apex shrinks from functional inactivity.

To outline the apex begin to percuss well up on the neck, coming straight down to pulmonary resonance (dot with skin pencil). Carefully work forward until six or eight dots one inch apart have been made. Connect these and the result will show the anterior inner line with a slight outward convexity above and a slight inward convexity below. For locating the outer line, begin near the shoulder and work in the same manner towards the neck. This line will be shorter with the convexity inward. The posterior lines should be mapped out in the same way. The next step is to percuss this area for any abnormalities. We cannot expect to find in incipient pulmonary tuberculosis any distinct changes, as marked dullness or flatness, since a deposit of scattered tubercles surrounded by normal lung tissue furnish the cause for any irregularity in the percussion note. This is

described as a slight "shortness" of note; the duration being less and slightly elevated in pitch. There may be, however, the slightest dullness or any impaired resonance or hyper-resonance, the latter being very misleading. If both apices are not involved a comparison of the two is extremely helpful. It is worth remembering that the normal apex furnishes slight dullness near the shoulder, slight tympany near the trachea and only a clear note between the two. There is some difference of opinion among authorities as to which fossa is the commonest site in apical dullness. Fluoroscopic findings show in most early cases, the inner part of the supraclavicular fossa and the inner third of the infraclavicular fossa are oftenest involved. The entire pulmonary area should be interrogated as thoroughly as the apices. As the examination proceeds all symptoms and signs should be noted on record sheet.

AUSCULTATION

The technic in auscultation is simpler but much more important than percussion. Whether one uses a stethoscope or not is a matter of choice. Personally, I prefer one as it eliminates all strained positions, intensifies faint sounds and reaches areas otherwise inaccessible. To get best results always use same instrument.

As many people make a noise in their nose while breathing, it is well to correct this before auscultating. Let patient's arms hang by sides and relieve any strain thus avoiding muscular friction sounds. Shivering will also produce these false sounds. To eliminate friction sounds caused by hair or rough scaly skin under stethoscope use a little oil.

The earliest apical changes are told best by auscultation. Only the supra and infraclavicular fossae; interscapular and supraspinous regions may be expected to reveal the secret. This is done first by changes in normal breathing and later by more reliable diagnostic signs—rales. The latter are not, however, essential if the former are corroborated by other positive evidences.

The first sound to differ with the normal vesicular murmur is called "rough or granular respiration" and is described by Turban as a series of short, quick recurring sounds and depends on their rapidity and strength whether the ear can differentiate them, from rales or not."

Cassart writes: "The air seems to be constantly passing over slightly elevated obstacles by which it is constantly broken and this sensation of obstructed progress gives the idea of a rough inpolished surface." Minor described this respiratory change "As rough and low-pitched, and is made up of a succession of very short sounds, as though small,

soft granules of fine, wet sage were being rolled over each other."

Granular breathing, largely inspiratory, is due according to Turban to a rapidly interrupted entry of air into the alveoli surrounding the tuberculous deposit.

A decided lessening in intensity of both the inspiratory and expiratory murmur is called "feeble breathing"; and is usually the second abnormal breath sound heard in early tuberculosis. This can be produced by as many other causes other than tubercularization that to be of diagnostic value it must be permanent after cough and located above the clavicle.

"Wavy," "interrupted," cog-wheel or jerky" breathing is described as having short expiratory and inspiratory pauses during which time the air is held and then released. This variety of respiration is best heard during quiet breathing and is usually posterior.

It is due according to Sahli to the valve-like action of the swollen mucous membrane. Another form of breathing found in the majority of cases towards the end of incipency is "harsh respiration." The normal vesicular murmur is replaced by sharp blowing sounds heard chiefly on expiration. When heard during quiet breathing and over an apex it indicates a narrowing of the bronchi and condensation. Strictly speaking it should not be classed as an early sign. It is said to be normally found in the right apex.

There is no arbitrary rule as to the order in which these abnormal sounds are heard.

Heart sounds unduly transmitted over the right apex are considered of diagnostic value.

Adventitious sounds in the earliest stage of pulmonary tuberculosis are absent. A few small, dry, crackles (not dissimilar to those heard in beginning pneumonia) found in an apex, and remaining after coughing or returning very soon, furnish splendid evidence of localized deposits. They can be made more audible by the use of ipecac or potassium iodide. Deep breathing followed by a cough, or visa-versa, will often produce them. Lawson Brown says: "If heard on quiet breathing the case is no longer incipient."

It is manifestly impossible to differentiate true rales from false pleuritic friction sounds.

Most of us will find blood examinations impracticable but, tuberculin a valuable adjunct.

It is not just to either the physician or the patient to dismiss a suspicious case after only one examination. No positive diagnosis can be made on anyone physical sign alone, as any sign can be produced from another cause; but a conclusion based on the sum total of all the signs, symptoms and histories will warrant the diagnosis of early tuberculosis.

ADDENDA:—For much that has been presented on signs, I am indebted to Dr. Charles

L. Minor, of Asheville, N. C., with whom I have had the pleasure to be closely associated in tubercular work.

INFLUENZA, OR LA GRIPPE.*

By T. H. HARDESTY, Paynesville.

The name influenza is derived from the Italian term *influentia*, meaning in that language, a mysterious influence, supposed to be exercised by the stars, and while this disease is very accurately described during the last three centuries it remained for Pfeiffer to discover the true cause, a germ now known by his name. It originates in the east and travels in a western direction extending over more country and affecting a larger number of persons at the same time than any other disease, no part of the civilized world being exempt. Whole crews on ships at sea have been attacked at one time as in the epidemic of 1782 which went rapidly from one country to another when the crew of one vessel commanded by Admiral Kempenfelt had to return to England from the coast of France, not having able men enough to run the vessel.

It is an acute contagious disease, its chief symptoms being due to catarrh of the respiratory and digestive tracts, together with profound muscular and nervous prostration and grave complications often present themselves.

There is no special anatomical lesions that characterize this disease. When death does occur in an uncomplicated case, which happens very rarely, the catarrhal changes in the respiratory and gastro-intestinal mucosa disappear after death. In the abdominal type there may be enlargement of Peyer's patches and solitary follicles. Among the fatal complications are pneumonia (mostly lobular), pleurisy, empyema, endocarditis, and rarely meningitis.

There is still doubt as to the manner of invasion, but most people believe the contagium enters by the respiratory tract; still there are others that believe it enters via the alimentary canal and rarely by conjunctiva.

While all persons are liable to contract this disease the very young are least liable, and the very old are the greatest sufferers, and those of any age whose vitality is lowered by hereditary disease or other chronic maladies. It is fortunately one attack does not grant immunity, since relapses are very common.

The incubation period is brief, rarely extending over two or three days. The onset is sudden, either with a severe chill or repeated shiverings followed by a rapid rise in temperature, which may reach 104 or 105 degrees F. accompanied by a severe headache, generally frontal, sometimes temporal, or occipital, de-

*Read before the Meade County Medical Society.

pressing myalgic pains with great prostration. The primary fever varies greatly, as does the other symptoms both local and general.

Prostration, restlessness, depression of spirits, insomnia and sometimes mild delirium constitutes the most common of the nervous symptoms. It may begin with vertigo, vomiting, by abrupt and profound prostration, and sometimes by nose bleeding.

But the most common symptom is pain, which, as before stated, is in many cases referable to forehead, temples, root of nose and eyeballs, accompanied by general muscular pains starting, in a number of cases, in the lumbar region, sometimes taking the form of a neuralgia of individual nerves, or pleuritic stitches and boring muscular pains, temperature curve is irregular, terminating in a few cases by crisis. Pulse irregular, feeble, sometimes intermittent and sometimes unusually slow, the depressing effects of the poison reaches a dangerous degree.

Dyspnoea is met with frequently, which I believe is due to oedema of the lung, although it may happen independently of lung complications; sweating may be a troublesome symptom.

We have several types of la grippe described. The difference being due to local manifestations and varying degrees of toxemia.

Respiratory type, beginning with the local catarrhal symptoms, which develop in one or two days, as shown, first suffusion of the conjunctiva, excessive lachrymation, frequent sneezing and slight sore throat, a little later hoarseness and cough comes on, which is hard and dry, the cough and other local symptoms are due to an intense dry condition of throat and tracheal irritation; in most cases the expectoration is scanty.

In a small proportion of cases there is considerable expectoration and physical signs of ordinary bronchitis are present.

Other cases appear to present more of a gastric or gastrointestinal disturbance. The catarrhal symptoms here center in the digestive system most frequently in children; in such there is vomiting, which comes on early and is repeated at short intervals. There is diarrhoea, more or less urgent, severe abdominal pains as a rule, also cardiac group of symptoms accompanied with heart failure and distress with rapid, feeble pulse, also nervous or typhoid, which presents a continued fever; a rheumatic type which is known by violent pains in the muscles all over the body.

The complications most commonly met with are, bronchitis, affecting capillary tubes and leading to lobular pneumonia; we also find congestion associated with oedema of the lung, occurring as a complication. We also find lobar pneumonia as a complication and which may prove fatal; it is more likely to be

found after influenza toxemia has spent its force and when it does arise is ushered in by same train of symptoms of invasion, viz.: severe chill, high temperature followed by the usual physical symptoms.

We also find pleurisy, particularly in cases of lobular or lobar pneumonia; other forms are found though not common.

I have had two cases in the last three years followed by empyema, both recovered, but only after months of convalescence. I have found the most common complication to be nephritis, and while it may escape our attention, I don't believe there is hardly a case of influenza of a severe type where, if you will question closely, you will find that there is always scanty and high colored urine at some stage of the disease, and more cases of chronic kidney disease brought on by this than any other disease.

Diagnosis of this disease is usually made without difficulty except in sporadic cases. The number of people attacked at one time, sudden attack alternating flashes of heat and chilliness, fever, headache, sore eyeballs, myalgia and prostration out of proportion to the catarrhal manifestations form a picture which none of us should mistake.

SEQUELA.

Among these could be mentioned chronic bronchitis, phthisis, and abscess already referred to, chronic nephritis, cystitis. Otitis is a common sequela and should receive special treatment, mastoid abscess is mentioned, but I have never met a case I could trace to influenza.

Prognosis on the whole is good, almost all fatalities are due to complications, except in the very old or those already run down with some chronic malady.

The mortality is low, less than 1 per cent., sometimes less than 1-4 of 1 per cent. while in other epidemics it reaches 2 per cent. Its duration is brief in uncomplicated cases, runs from 2 to 5 days, in severe cases from 7 to 12 days, but convalescence is usually protracted.

TREATMENT.

As far as possible, particularly those at extreme of life, should, during an epidemic, be protected by proper wearing apparel and also should not be exposed to unfavorable weather conditions.

After the attack has set in all should remain indoors and if much prostration, should remain in bed until convalescence has set in. In mild cases, usually 2 to 5 days, in severe cases longer or until convalescence is well established.

The diet should be light and nutritious, milk, eggs, rice, vegetables and stewed fruits, cooling drinks, lemonade, effervescent mineral

waters. Bowels should be moved regularly, but avoiding active purgation. Where depression exists I use stimulants, light wines, or brandy toddies. In all cases even the mildest, I prescribe moderate doses of quinine, from three to four grains four times daily; for the headache and pains I combine with it Dover's powder and monobromated camphor, repeated every three or four hours, and for the languor and debility I use strychnia until in robust persons, I reach the 30th grain, beginning with the 60th. I also give calomel in small doses on the first day until three or four doses of one grain each are given.

If the myalgia and headache is not relieved by the Dover's powder, quinine and monobromated camphor I give morphine in small doses and sometimes give it hypodermically, if not relieved readily by the mouth.

In case of sleeplessness a hypnotic may be needed as sulphonal, acetanilid or opium, but do not give the coal tar group often in these cases, owing to the depression already existing.

For the coryza and bronchial irritation, steam inhalations, and for the dry cough attending the latter condition, I sometimes give codeine with syrup of wild cherry 2z chloride of ammonia, tablespoonful every three or four hours. Chest pains are sometimes relieved by the use of turpentine stupes.

Sudden cardiac failure should be met with the frøer use of strychnia, camphor and digitalis. I like the infusion the best in tablespoonful doses repeated every three or four hours; in extreme cases nitroglycerin and aromatic spirits of ammonia and carbonate of ammonia.

As one attack does not render us immune from another, when convalescence sets in the greatest care should be exercised in not allowing patients to go out too early, the temperature at this time in a majority of cases is subnormal, due to the weakened condition of patient and is, therefore, very susceptible to a chill on this account. I do not like to allow patient to be exposed to external atmospheric conditions. Therefore keep them in the house a more liberal supply of food and tonics, gentian, iron, quinine and strychnine or the hematic syrup of the hypophosphates until recovery is complete.

Atrophy of the Lungs.—In the case reported by Bauer the patient was admitted to a sanatorium with the diagnosis of pulmonary tuberculosis, but she proved to be free apparently from this, and the abnormal findings were the result of a partial lack of development of the lung or, as he styles it, atrophy of the lung on a basis of inherited syphilis. The Wassermann reaction was positive in the serum and the albumin reaction in the scanty sputum.

LOBAR PNEUMONIA.*

By C. T. Riggs, Upton.

I have sought to take up only frank lobar pneumonia, as to deal with atypical types would make a paper of this nature too long.

Lobar pneumonia, pneumonitis, croupous pneumonia, fibrinous pneumonia, true pneumonia.

DEFINITION.

An acute infectious disease characterized by inflammation of the lungs, chill, high fever and fibrinous exudate, usually terminating in crisis in from three to five days.

HISTORICAL.

What we know as lobar pneumonia was, no doubt, known to the earlier medical writers. Hippocrates describing it as peripneumonia or pleuritis. But it remained for Laennec, 1819, to separate the two diseases, and classify pneumonia into the three well-known stages which hold to-day—congestion, hepatization and resolution or suppuration.

ETIOLOGY.

Predisposing causes, overwork, previous attack, fatigue of body or mind, exposure to cold and dampness, overcrowding in poor ventilated rooms, lowered vitality from any cause, as previous or present illness, such as a chronic Bright's disease, etc.

EXCITING CAUSE.

The diplococcus of Frankel. It occurs in pairs or rows and is pointed at one end, hence the name bacillus lanceolatus, lanceol shaped. Its mode of entrance is most likely through the air passages since it has been found in those parts, and is said to live for months or even years in the saliva of healthy persons who have had pneumonia.

The pneumococcus of Friedlander is found in about five per cent. of all cases and was formerly thought to cause pneumonia, but the opinion at present is that Friedlander's bacillus is not pathogenic, but is a harmless saprophyte.

MORBID ANATOMY.

In lobar pneumonia, the lung presents three different stages: congestion or engorgement, red hepatization and gray hepatization.

The seat of election in pneumonia seems to be in the lower lobes of the lungs, and in the right oftener than the left.

THE STAGE OF CONGESTION.

In this stage the lung is very much engorged, blood transudes into the air-cells and, also, may be found exfoliated alveolar cells, this part of the lung is a great deal heavier and

*Read before the Muldraugh Hill Medical Society.

redder than the normal lung, yet air permeates the vesicles.

The second stage or stage of red hepatization. In this the lung is dark red and is as much as three or four times as heavy as in health. A piece dropped in water sinks at once; on section, it very much resembles the liver, hence the term hepatization.

The third stage or stage of gray hepatization. This is also well named as on section it shows a grayish-white color, is still heavy, but more moist and softer. It sometimes happens that all three stages are seen alongside each other. There is also a fourth stage sometimes spoken of as yellow hepatization, but this seems to be only the latter part of the third stage or the beginning of resolution in this the contents of the air-cells liquify, this partly being expectorated, the lower part being absorbed.

The pleura just over the affected part is most always inflamed as is shown by the plastic deposit, and intense pain on coughing. There may be also a thickening of the pleura and a serous deposit.

SYMPTOMS.

There is possibly no other disease, except perhaps malaria, that is so certainly preceded by a chill, as is pneumonia and is usually very severe. The patient usually presents the following picture and history: After exposure to cold or dampness, he may or may not have prodromal discomfort with headache, which may be severe. Suddenly seized with a chill, which may come on at night, followed almost immediately with high fever, 105 degrees, with a flush on both cheeks, usually more marked on the affected side, pulse full and bounding, rate 100 to 120, thirst and the urine scanty and high colored, pain in the side, which depends on its severity to the amount of pleura involved. The breathing is short and rapid, the cough is dry and hard and is often restrained on account of the pain it gives.

In twenty-four to forty-eight hours the sputum begins to show distinct characteristics, tough, light red in hue, "rusty" and is gotten out of the mouth with difficulty. At other times the sputum may be thin and dark, "prune-juice."

The appearance of the patient is very striking, face flushed, eyes brilliant, breathing rapid, the alae nasi dilate, and a frequent short cough held back as long as possible on account of the pain it occasions, the patient lies upon the affected side, not only to lessen the pain by the pressure, but to lessen the dyspnoea by giving more freedom to the unaffected side. This is about what inspection would disclose.

Palpation would reveal vocal fremitus di-

minished at first, but will become decidedly increased as the air vesicles fill up. The skin is hot and dry, the pulse is frequent, full and strong.

Percussion gives absolute dullness over the affected part, but may have exaggerated resonance over the adjacent normal lung, perhaps not so much, from supplemental function as from relaxation of the air vesicles, Skoda's resonance.

We can detect, with the ear over the solidified area, high bronchial breathing. The ausculted voice gives bronchophony and sometimes pectoriloquy. The heart sounds are more distinct over the consolidated area owing to the improved conduction.

The state of affairs as described above exist for from three to nine days, if resolution takes place, we have a sudden drop in temperature, followed by heavy perspiration and a state of ease succeeds one of great distress, often to be followed by a long refreshing sleep. This is known as the crisis. From this time on convalescence is steady and rapid, and in a few days the temperature and pulse are normal; however, the patient is weak and demands care for a time longer. When the pneumonia terminates unfavorably we have one of the following conditions: cardiac failure, abscess, gangrene of the lung, or phthisis pulmonis.

DIAGNOSIS.

The diagnosis of pneumonia is usually easy, exposure followed by chill, high fever, rapid pulse and short, suppressed cough, tells the tale.

PROGNOSIS.

There are many things to be reckoned with in making a prognosis. The young and robust, nearly all recover, while the old and debilitated nearly all die; but the mortality should not exceed 15 to 20 per cent.

TREATMENT.

There is no iron-clad rule that we may follow in the treatment of pneumonia, but each case is more or less a law unto itself. The following treatment is about the routine that I institute in uncomplicated cases:

Put the patient in as comfortable a room and position as possible with plenty of ventilation, but no draught. Place a hot poultice over the affected side; I prefer a plaster of antiphlogistine, covering the entire side, then a batten jacket over this. If seen on the first day, I give a brisk calomel purge, followed by oil if needed. Of course, the treatment varies with the age and vigor of the patient, but if the patient is a vigorous adult and seen on the first day after the initial chill, I give from 20 to 25 grains of quinine and urea hydrochloride hypodermatically, then 15 to 20

grains every three or four hours for the first 24 to 48 hours. This can be given by the mouth, but I like it better hypodermatically for the first day or two, then it can be given per oris in 10 to 15 grain doses, every three or four hours, being governed by the temperature. If this is not sufficient to control the fever, light sponging of the forehead and face, or a moist cloth applied to forehead might be tried. A little alcohol, in the form of whiskey or brandy, may be given in milk every three to four hours. Dover's powder in sufficient dosage to control pain and induce sleep may be given.

As an expectorant and diffusible stimulant, carbonate of ammonia should be given in small doses oft repeated. Liquid nourishing diet should be maintained until convalescence is well established. Inhalation of oxygen may be given for the relief of dyspnoea. To reduce the fever and relieve delirium, small amounts of a normal salt solution may be thrown into lower bowel frequently.

I have intentionally left off the serum and vaccine treatment as I have had no experience with them.

SKIN CONSUMPTION.*

By D. C. DONAN, Three Springs.

Synonym—Struma Derma, Scrofulous Tetter, Misnomer Pellagra.

My first case was Matt Thompson, an uncle of Dr. C. J. Walton. He came to me for advice when I first began practice in 1859. He then lived at the Raccoon Spring, Hart county, near Hardyville. I told him it was a strumous disease and that alteratives, sarsaparilla, etc., were the main remedies. He would sometimes come into the office, take up the laudanum bottle and drink it like whiskey, which he said allayed or soothed the itching face.

My second case was that of C. C. South, of Center, Metcalfe county, Ky. His face, hands and arms peeled off leaving a red delicate surface. Iodine and campho-phenique were recommended which healed the disease for a time, but he had at the same time tubercular phthisis of which he died in a year or two.

My third case was Jack Harding, of Liletown, Green county Ky. He had lung consumption and skin consumption at the same time. I prescribed for him iodo-bromide of calcium compound for the skin disease and the phosphates of iodine, quinine and strychnia for lungs. He was unable to prevent

them and finally died of consumption of skin and lungs.

STRUMA OR TUBERCULOSIS.

My fourth case is Dan Gupton, of Greensburg, Green county, Ky., a hotel keeper. I prescribed for him the iodo-bromide of calcium, three times daily, and to sponge himself all over every night at bedtime with a wash of lime water, sulphate of zinc, boric acid and sulphur, to stop the tormenting itching which deprived him of sleep nearly the whole night and which was fast making him a mental wreck.

A brother died of consumption.

STRUMA OR TUBERCULOSIS.

My fifth case was that of Miss S., of Edmonston, Ky. I was consulted by her half brother some years ago about her disease. Struma derma, which had spread entirely over her face, making it red and rough with a continuous tormenting itching. I prescribed resinol for the itching, but she said she had tried it without much, if any, benefit. I also advised alteratives.

She had a brother who had a tuberculous cough for two or three winters before he was killed in Louisville.

This article is written to ridicule the idea that corn meal will produce pellagra or skin consumption. It only shows how seemingly wise men can be in error. If corn produces any disease at all it is from the ergot which is shelled off the ear with the sound grain—this ergot is on the little end of the ear of corn and sometimes prevents cows conceiving while being corn-fed, and if given to chicken cocks it will rot their combs off from dry gangrene.

CANCER.*

By N. W. MOORE, Cynthia.

To me, one of the greatest problems of the future for the medical profession to solve, is cancer. We have removed the veil from many of our most dreaded diseases, such as tuberculosis, typhoid fever, diphtheria, malaria, yellow fever and syphilis, but the origin and cure of cancer remains, plunged in the darkness of ignorance, and a vast unexplored wilderness lies before us.

A disease that is rapidly on the increase. A disease, that when we inform our patient of his condition almost invariably abandons all hope of recovery, and looks forward to a life of long suffering—we stand so helpless in its presence, when the disease is fully developed, that we almost abandon him to his fate, and feel relieved when the end comes, and yet in

*Read before the Metcalfe County Medical Society.

*Read before the Harrison County Medical Society and the Bourbon County Medical Society.

the light of our present knowledge of this disease, we are longing and hoping for another Ehrlich who will rise up and show us how to conquer one of the most terrible of human diseases.

What is cancer? Is it a germ so small, that our most powerful microscopes fail to detect? Is it due to an excess of meat eating? Is it due to an over-indulgence in alcohol? Is it due to an excess of salt in our food? Or is it of a nervous origin? All of these theories have been advanced by some of our best men, and have been disproved by scientific investigation.

The discovery that malignant tumors exist in the lower animal both in their wild and domestic state has awakened new theories, also the experiments of transplanting carcinomatous tissue from one mouse to another until whole colonies have been infected; however this is what is called mouse cancer. There is no authentic case of inoculation of the human being either from man to animal or man to man.

In 1901 Dr. Senn voluntarily endeavored to inoculate himself with cancer, by imbedding a section of cancerous tissue in his forearm, but no serious results followed. He also took carcinomatous tissue from the leg of a patient and implanted it in various parts of the affected limb with negative results.

One of the greatest proofs it seems to me that cancer is not due to micro-organisms, is that the prolonged use of the X-ray sometimes produces cancer. Admitting this how in the world is it possible for any living germ to live or thrive under repeated exposures to the X-ray which we know to be so fatal to them.

Another strong argument against a parasitic origin of cancer is what Dr. Gustav Enterer, of Chicago, has to say:

"While I do not intend to discourage research in that direction, I wish to state that I have never been able to believe that parasites are or may be the cause of carcinoma. Probably the strongest reason against a parasitic cause lies in the fact that in carcinomatous metastasis the cells of the organ do not become infected, and do not participate in the building up of the metastasis which develops from the invading cells. I have first advanced this reason at a meeting of the Chicago Pathological Society, Dec. 14, 1895, and I still consider this fact of the highest importance; it is hard to conceive that such would be the case if the invading cells included parasites."

GEOGRAPHICAL DISTRIBUTION.

Cancer is very prevalent in our own country, that is in the United States. San Francisco takes the lead, next Buffalo, then New York City. On examining a cancer map of the United States we find the darkest area extending along the coast of California and

Oregon, with a lightening up of color until we reach the North East and Middle States which are very dark. All the territory lying south of the same latitude as that of Virginia, Tennessee, and Arkansas the coloring is very light, which is due to the great negro population in these states. The negro we know is rarely affected with cancer. The combined mortality of the seven largest American cities has over doubled in twenty-eight (28) years. During 1898 it caused over 50,000 deaths and it is reasonable to suppose that within the last year there has been a mortality of at least one hundred thousand. This is mere guess work on my part, as I have been unable to obtain the latest census reports of the United States, being largely guided by the census of 1900. In England and Wales deaths from cancer have more than doubled within the last twenty (20) years. No other diseases can show such an immense increase. It is unknown in the polar regions, Algiers, Chili and Borneo, and very rare in China and New Guinea, while in Japan there are 25,000 deaths each year. Cancer of the uterus is almost unknown among the full blooded African negroes. So we see that race, climate and environment has something to do with cancer.

Dr. Senn in the *American Journal*, 1906, said: "During my trip last summer to the very heart of the Arctic, to within 260 miles of the North Pole, I made special observation and inquiry in reference to the occurrence of tumors among the Aborigines. These people have lived for unknown centuries on an exclusive animal diet, blubber, and meat; they do not know the taste of a single vegetable diet; they are the filthiest people in the world as they never wash themselves and wear furs throughout the year and yet they appear to be immune to tumor formation of any kind." The idea occurred to him that this immunity might be due to the iodine contained in the food obtained from sea animals. We know that the North American Indian lived principally on an animal diet and it is said he is still exempt from this disease.

From all this information concerning the different races, cancer must be a disease of civilization.

Even the well-fed closely housed poodle dog is frequently attacked with sarcoma. It is impossible to explain why wild animals and birds have cancer, when we realize that so long as man lived in a primitive state he was exempt from malignant tumors. Another very peculiar thing, that the death rate is higher in the rural districts and smaller towns than in the cities. That those employed in hard out-door work have a higher cancer mortality than the sedentary classes.

PREDISPOSING CAUSES.

We all know that advanced age plays an important role in the etiology of cancer, out of 9,906 cases reported there were only nineteen (19) less than twenty (20) years of age. I have seen two cases of sarcoma of the eyeball in infants under three (3) years of age, no doubt of a prenatal origin, as heredity seems to be a predisposing cause. It has been observed in mice whose progeny had been subjected to direct inoculations. I saw an aged woman die of a mole on the right side of the temple which became malignant and a few years later witnessed the same condition in her oldest daughter, which strange to say originated from a mole in the identical locality as that of her mother. Was this a mere coincidence or was it hereditary? I am inclined to believe the latter.

Trauma or prolonged irritation is a predisposing cause, for instance of the lip and tongue from a jagged tooth, lacerations of the cervix in child bearing women, gallstones, ulcers of the stomach, scar tissue, benign tumors, moles and senile warts may become malignant from constant irritation. Justly or unjustly smoking has been accused of producing epithelioma of the lower lip, tongue and tonsil, especially by the use of the pipe. It is singular, however, that in many countries where cigarette smoking is practiced to the greatest excess like Turkey, Palestine, Algiers and Morocco, epithelioma of the lip and mouth is of rare occurrence, this goes to prove that actinic rays or tobacco has but little to do with cancer. The habit of "betel chewing" so generally practiced throughout India, is unquestionably responsible for the great prevalence of epithelioma of the mouth in that country. We no longer hear of Chimney Sweep's cancer as this occupation has been abandoned owing to better facilities for cleaning chimneys. On the other hand we hear of Sailor's Cancer supposed to be due to prolonged exposure to sun rays. In beer drinkers and those using all kinds of alcoholic beverages the death rate is lower than that found in the more moderate consumers of alcohol, which may be explained, that many of the excessive users of alcohol never live to reach the cancerous age. Ministers are prone to cancer because they have a higher life average than some other occupations.

On comparing the different occupations in regard to the frequency of cancer we are surprised to find the great mortality occurring in those who do hard out-door work; leading the list with a death rate of 126.6. Then follows sailors and fishermen, 113.1. Then nurses and midwives 105 per cent; Blacksmiths 107.3; clergymen 102.2; masons 98 and farm laborers 87 per cent.

An argument against the theory that alco-

hol is a predisposing cause of cancer is that the average in those of the public entertainment class is only 35.3, being the lowest of all the group. The average under this heading for saloon and restaurant keepers is only 28 per cent. It can also be shown that the consumption of beer has no direct influence on cancer, by comparing the rates in certain cities that are largely inhabited by Germans and are the centers of breweries. For instance Milwaukee, Cincinnati and St. Louis the death rate is much lower than in a great many other cities where the environment is different. This list also shows that 63.1 per cent of all cancer are in women and 36.9 per cent in men. This can be explained when we take into consideration the frequent occurrence of cancer of the uterus and breast. Cancer of the stomach is a little higher in man than in woman, while cancer of the throat, mouth and tongue is three and a half times more frequent in men. Over 50 per cent of cancers in men occur in the stomach. Carcinoma of the stomach is a very rare disease in youth. Regel in Nothnagel's Practice reports a case in an infant of five weeks. Also another case in a boy one and one-half years old, both cases no doubt being congenital. Kelly saw a case of carcinoma of the uterus in a girl twelve years of age.

Cancer begins primarily in the epithelial cells. Dr. J. S. Pilcher describes the condition as follows:

"It is in the lawless proliferation of pre-existing epithelial cells in luxuriant, irregularly arranged masses that invades underlying and surrounding tissues, premeating them, and finally themselves attaining a mass which can no longer be adequately nourished by an accessible blood supply and which itself then falls into central decay, while at the periphery the process still goes on that cancer consists."

To attempt to give the diagnosis, pathology and symptomatology of the various forms of cancer would lengthen this paper far beyond the limit, so I shall close with a few remarks on treatment.

There are two very important things that we general practitioners should never forget:

First. That all cancers in any part of the body are at first local and that this is the only time when proper treatment will perfect a permanent cure.

Second. We should be able to make an early diagnosis. Dr. Rufus B. Hall, of Cincinnati, said to me two years ago, in referring to the diagnosis of malignant disease, "that quite a number of physicians' wives and daughters whom he had operated on for cancer of the uterus and breast, had never been diagnosed as such by their fathers or has-

bands." This being true, we can easily imagine that a far greater number were overlooked or undiagnosed outside of their immediate families. That such a condition should exist among our profession is hardly pardonable. If we are unable to make a correct diagnosis of these cases ourselves, it is certainly our duty to refer them to skilled men who are competent to do so. Thirty thousand women die of cancer of the uterus in the United States every year. Admitting that women often neglect to consult a physician when afflicted with this disease we are nevertheless, greatly responsible for this enormous mortality.

The advice of our old-time physicians and I am sorry to say, a few of our modern ones "to let it alone; if it does not bother you, don't bother it" etc., has deprived many a patient of his life, who would have been saved by a thorough removal of the disease tissue. Most of the laity look upon cancer as an incurable disease and we should do all in our power to eradicate such a belief. Tell them that the skillful surgeon by early operations are curing from 30 to 50 per cent. of cases of cancer of the uterus, and eighty (80) per cent. of cancer of the breast remain well, if done within six (6) months of the development; that they are curing a number of cases of cancer of the stomach and intestinal tract, as well as those of the kidney and bladder. Tell them that over ninety (90) per cent. of superficial or skin cancers can be absolutely cured by cauterizing, caustic or X-ray. "Crile estimates that 80,000 unsuspecting people in this country at this moment will be affected with incurable cancer within six months." Just think what an early diagnosis and treatment means to these eighty thousand, a saving of at least 20,000 lives. We must enlighten the public on this subject as we are so earnestly and so successfully doing with that of tuberculosis. Inform the women that the slightest hemorrhage coming on several years after the menopause does not, as a rule, mean the re-establishment of menstruation, but in the great majority of cases means uterine cancer, and that the vast majority of abrasions and tumors of the breast are of a malignant origin. A pus and blood discharge from the rectum does not in all cases indicate hemorrhoids but may be due to malignancy. Eighty per cent. of all cases of the intestinal tract occur in the rectum, this being true, think of how many lives could be saved by an early examination with the proctoscope. In cancer of the bladder we can make a positive diagnosis by the aid of the cystoscope and microscope, and that of the stomach by the absence of free hydrochloric acid in the test meal, however this is not infallible.

It is claimed that in no part of the body

are cancerous tumors less disposed to return after their removal than in the rectum, except epithelial growths of the lip. Incision is the best treatment for internal cancers, also for cancer of the breast; the Halstead operation being the best in the vast majority of cases, when followed up with X-rays.

Paget's disease of the nipple is nothing more or less than an early stage of cancer of the breast, and it should be removed by the knife, however it is not necessary to do an extensive mutilating operation in these cases.

Amputation in a great majority of cases of sarcoma of the long bones is the only life-saving treatment. Although some cases have been reported as cured by the X-rays.

In epithelioma of the lower lip we should go far beyond the healthy tissue if we expect a permanent cure, and if there is a glandular involvement, they should be removed by an extensive dissection. I can recall four successful operations I have done within the last eleven years in men aged 35, 42, 68 and 70 all living at the present time and in excellent health. In the one aged 70, fully one-half of the lip was removed; in this case the lip was so shortened that it was necessary to remove the lower front teeth. Even in the hopeless cases of cancer, such as the rectum and uterus an operation is justifiable in order to prolong life, and make the patient more comfortable. Superficial caustics like nitrate of silver and carbolic acid are dangerous as they frequently aggravate and do not go deep enough, however, Marsden's paste is very penetrating and will remove sufficient tissue for a cure; in some cases it is best to remove some of the growth with a sharp curet and then apply the paste; this is also an advantage when using X-ray and carbon dioxide snow. Ravolia reports excellent results from the use of a 40 per cent. solution of formaldehyde also from the use of solid permanganate potassium. Recently I have been getting good results by the use of carbon dioxide snow, which destroys tissue by rapid freezing, usually requiring only from ten to thirty seconds. This snow is so cold that it has been estimated to be as low as 160 degrees below zero. Dr. Pusey, of Chicago, discovered this treatment in 1907. In some respects it has the advantage over X-rays as it usually requires only one treatment and healing takes place within two weeks.

The X-ray is the best for epithelioma of the lip, nose and eyelids as it does not leave disfiguring scars that we so often see after the use of the knife or caustics. Just why the X-ray fails to cure deep-seated cancers, we do not know, probably due to the obstruction of the rays by the skin and underlying tissues. Under an improved technic we may before

long get better results. Its possibilities are beyond the conception of man.

Radium is far superior to some of the remedies mentioned as when the disease is located in a cavity such as the mouth, throat, rectum and vagina. Recently a radium hospital has been established in London, where experiments are now going on, and it is reasonable to believe that ere long marvelous cures will be reported. Out of the combined workers in the field of investigators in cancer research, a cure is bound to come. It may come through serum treatment, it may come through the light treatment or through chemotherapy. Who knows? A crown of fame awaits the discoverer.

CHYLURIA.*

By FAYETTE DUNLAP, Danville.

January 19th, 1912, a young man age 18, came to my office. He was in robust health and a laborer. He consulted me regarding frequent urination with the additional information that the entire collection of urine seemed to go to foam.

He passed four ounces of urine in a beaker and the two facts most noticeable were a slight opalescence and the great amount of foam. Saccharine urine oftentimes bubbles and foams on agitation, and suspecting that, I resorted to the hydrometer and found a specific gravity of 1.004. This low range indicated nephritis rather than glycosuria. The sugar test was nil and the heat and acid test revealed a large coagulum. I then resorted to the centrifuge with the unlooked for disclosure that there was precipitated a firm whitish-pinkish mass with a very clear urine above. The microscope revealed a mass of very fine fat globules, red corpuscles and a few leucocytes. Upon brisk agitation the entire volume of urine became foam and while in this state I added sulphuric ether and it immediately resolved itself into the clear state again, thus practically confirming the suspected condition of chyle in the urine.

The entrance of the contents of the lymph channels into some part of the urinary tract usually directly into the bladder can be caused by traumatism, erosion, by means of a fistulous tract, and in the tropics by the presence in the blood of the parasite *filaria sanguinis hominis*. In my patient the prominent symptom was frequent and abundant urine and in the beginning of the attack painful symptoms strikingly like the passage of a calculus through the ureter. I noted that when the urine was allowed to stand undisturbed in the tube that a firm tough jelly clot would form, and my interpretation of the

pain was the passage of a mass of this kind from the pelvis down the ureter. I searched diligently through several specimens for the ova of the *filaria* but found none and two occasions a freshly drawn blood drop for the parasite itself but found nothing. There were no evidence of kidney casts for the experience has been that these cases oftentimes result in chronic nephritis. The patient's general condition is excellent, strength only slightly impaired, as I am of the opinion that this patient has an accidental chyluria there is no treatment promising anything, hence nothing was prescribed save an emulsion of cod liver oil to replace in part the perpetual loss of the lymph.

REMARKS ON DIAGNOSIS OF POLIOMYELITIS WITH MISLEADING SYMPTOMS.

By TOM A. WILLIAMS, Washington D. C.

In 1910 there were in Washington, D. C., 500 cases of poliomyelitis within three months. A study was made of the early pathology of the condition in the cerebro-spinal fluid in 11 cases; and leucocytosis was found in the earlier stages, followed within a few days, by the appearance of large macrophages and then a lymphocytosis. In some of these cells were found bodies resembling those of Leishman Donovan.

No early symptoms were discovered which would enable one to affirm that a case was one of poliomyelitis before loss of reflexes or paralysis ensued. It seems that in times when the disease is expected, all febrile cases should be isolated for some days, at least. That might be a wise measure in febrile disease always.

One gratifying feature of the epidemiology is that this year just gone, this summer, there have been very few cases. It would seem, therefore, that an epidemic sweeps all the susceptible individuals into its net, and leaves the community largely immunized.

The unusual types of the disease have not been very abundant in the report; although to me they have appeared very abundant; for it was these more difficult cases that I mainly saw.

It was the bulbar cases that are the most likely to escape diagnosis. One such patient I saw after the disease had subsided, leaving only a complete paralysis of the serratus magnus muscle and a slight weakness of the deloid of the same side, had had an acute bulbar attack in which she nearly choked to death, in which there was a strabismus of one

*Read before the Boyle County Medical Society.

eye, facial paresis, and in which swallowing was impossible.

There are no pathological evidences that the peripheral nerves are affected by this disease. The clinical similarity in some cases is due to the irritation of the spinal roots in the meninges, which renders the afferent nervous system more sensitive. This, along with the general febrile condition, is the cause of the tenderness found in these cases, in which simple pressure excites pain similar to that so characteristic of peripheral neuritis. But the diagnosis in most cases is simply made, by studying the distribution of the paralysis, which in polyneuritis is uniform and general, although it may vary somewhat in degree, but never to the extent of completely paralyzing some muscle groups and entirely sparing others, which is, as we know, the rule in poliomyelitis. Some cases of acute ascending paralysis which die cannot, however, be diagnosed with certainty, unless the history is clear or the sensory symptoms are pronounced or a post-mortem is made.

Cases with symptoms of spastic paralysis are quite puzzling if the lower motor neuron affection is indistinct. In one remarkable case I saw this spring, there was incomplete transverse myelitis, with only partial sensory symptoms at inception, great pain in the testicles, followed by slight paralysis of the quadratus femoris on the one side, and a weakness of knee reflex and ankle clonus on both sides. In this case, which I diagnosed as probably poliomyelitis, the cerebro-spinal fluid was free from excess of cells; but we inoculated this into a monkey; and this monkey became paralyzed about six months afterwards.

The patient was out of bed within ten days, and has apparently completely recovered.

CAESAREAN SECTION—FIRST IN AMERICA.*

By E. S. McKee, Cincinnati.

Dr. John L. Richmond, at Newton, Ohio, a few miles from Cincinnati, on April 22nd, 1827, made the first recorded Caesarean section in this country. The matter has been most elaborately worked up from all points by Dr. Otto Juettnner, of Cincinnati, in an elaborate address recently delivered at Newton, and published in the Cincinnati *Lancet-Clinic* January 27, 1912. Reprints of Dr. Juettnner, Berkshire, Cincinnati.

Dr. Richmond's patient was a primipara who lived in a log hut hastily thrown together for immediate occupation and unchinked. At the time of operation it was surrounded by

a raging flood for both the Ohio and the Little Miami were raging floods. The hour was midnight and his sole assistant was a lone woman whose entire attention was taken up with holding the only candle and protecting it with a blanket to keep the wind from blowing it out. The operation was favorable to the mother but the child died. He reported his case in the *Drakes Western Journal of the Medical and Physical Sciences*, Vol. III, 1830, p. 435 and is quoted by Juettnner in his address in its entirety. Dr. Richmond graduated from the Medical College of Ohio in its first class, 1822. He practiced and preached in Newton, for he was also a Baptist minister, he performed signal service in the cholera epidemic of 1831, contracting the disease himself. After recovery, being in shattered health he removed to Indiana where he lived in Pendleton, Indianapolis and Covington at which latter city he died in 1855 and lies buried in Springdale cemetery, Lafayette, Indiana. Much of the information was obtained from his granddaughter who is now living in London, the wife of the American Counsel. April 22nd, 1912 there will be a gathering of medical men in Newton to erect a tablet to the memory of Richmond where he performed his great work.

RELATION OF RENAL ACTIVITY TO SURGICAL OPERATION.*

By E. O. Smith, Cincinnati.

The success or failure of a major operation depends largely upon the activity of the kidneys, of course barring faulty technic and bad surgical judgment of operator.

The functional activity of the kidney may be influenced by the shock incident to a major operation, by the anesthetic, by trauma to one or the other kidney, by calculi, or by ureteral obstruction from any cause. Hysterical anuria or oliguria, if such a thing is possible, seldom follows operations.

There are still some of us who are skeptical as to a reflex anuria. A sudden blocking of one ureter effects the kidney on the opposite side by suddenly throwing upon it increased work, and if the kidney is normal it will quickly adjust itself. Anuria following ureteral catheterization is due to the fact that the patients have been deprived of water prior to examination. To avoid this, give plenty of water just before the examination. The effect of traumatic disturbance of one kidney in producing anuria is due to the shock and to the call for double duty by the other kidney. All surgeons are familiar with the diminished urine output for several hours after an operation. By many it is considered a mere inci-

*Read before the Fayette County Medical Society.

*Read before the Bourbon County Medical Society.

dent unless it is so marked and persists so long that the patient's life is despaired of. The degree of disturbance produced by the above mentioned agencies depends upon the conditions of the kidneys at the time.

If the kidneys are histologically and physiologically normal at the time of the operation I believe that the effect of the anesthetic, shock, etc., on the kidneys will be so slight and so transitory that the patient will suffer no marked or permanent ill effect.

Fisher's theory of nephritis, which has been proved both experimentally and in clinical application, is that the activity of the kidney is altered by the presence of an increased acidosis. He claims that the kidney parenchyma, that is between the blood on one side and the urine on the other, is a colloid material which in the presence of abnormal acidosis becomes edematous and does not permit the passage of water from the blood stream to the uriniferous tubules. In other words this colloid substance takes on water but does not give it up. When the acidosis has been overcome or reduced sufficiently the kidney parenchyma loses its edema and again resumes its function.

Heart and lung lesions, muscular exercise, mental disturbances, disturbances of the renal blood supply, and toxic matters in the blood, all produce an increased acidosis and the symptoms of nephritis. While this applies to nephritis generally it is all the more applicable to post-operative suppression of urine.

It is not all of surgery to make a diagnosis of a surgical lesion and proceed to operate. There are three distinct periods of every surgical case that require special care and attention. The preoperative period, the operation, and the post-operative period.

THE PREOPERATIVE PERIOD.

The preoperative period is the time prior to the operation when the patient should be studied most carefully and prepared for the operation. This period may be a few days, a few weeks, or it may be the only period, if the patient cannot be sufficiently improved to make the operation comparatively safe. During this time the patient is examined most thoroughly as to his heart, lungs, etc., with particular attention to the renal activity.

It has been noticed that when continuous bladder drainage has been instituted, the specific gravity of the urine in some cases was reduced from 1025 to 1008 or 1010. When this occurs or when the specific gravity was low prior to the drainage, operation should not be attempted until this has gone up to 1020 or more. There is one exception to this and that is when there is a decided polyuria in which case there is a good output of urea, etc. On the other hand we may have a pa-

tient with a high specific gravity and high percentage of urea but still be a bad surgical risk, because of diminished amount of urine. A careful urinalysis should precede every operation.

It is best to make a further study of the functional activity of the kidneys before operation. This is based upon the observations that normal kidneys remove from the circulation certain drugs that have been introduced, within a certain time and that marked deviations from this time represents abnormal kidneys. Numerous tests have been suggested, but only three are now looked upon as being reliable. They are phloridzin, indigo-carmin, and phenol-sulphone-phthalein.

Phloridzin has the peculiar property of producing a glycosuria in normal kidneys. In kidney disease the glycosuria either does not appear at all or is delayed. Five milligrams of the drug is introduced subcutaneously and in normal cases sugar appears in the urine in from twenty to thirty minutes. The urine is collected and examined for two or three hours having reached its maximum at the end of the first hour.

Indigo-carmin is best introduced into the gluteal region, using 4 c.c. of a 0.4 per cent. solution. If the kidneys are normal the urine will show a bluish tinge in fifteen to eighteen minutes, after the injection. If the appearance is delayed and the color more greenish than blue it indicates diminished kidney activity.

The most reliable and valuable of all is the phenol-sulphone-phthalein test as developed by Rowntree and Gerahly. In brief this consists in introducing into the upper arm 1 cc containing .006 of the drug. This should show in the urine in from fifteen to twenty minutes. During the first hour 40 to 50 per cent of the drug is excreted as is determined by a colorimeter, and 20 to 25 per cent. during the second hour. Variations from these figures indicate damaged kidneys. It can be administered intravenously in which case it appears in the urine in from two to five minutes and a greater percentage (75 to 80) is excreted during the first hour.

This test has proved to be very reliable and has saved surgery a mortality on many occasions. Some cases that showed at first a diminished functional activity at which time they would have been bad surgical risks, after having been treated, improved so much that operations were safely performed.

Others showed no improvement from treatment and died the "natural way" within a few weeks. If the renal function is normal and there are no other contraindications for operation a very short period of preparation is all that is necessary. It is my opinion that a patient is better prepared to withstand an

operation. If muscular activity produces acidosis, rest will diminish it. Of course there are emergency cases that must be deprived of the benefit of the preparation treatment.

During the preparatory period the patient should be well fed with easily digested, nutritious food containing few proteids. He should have plenty of water and above all things his system should not be depleted of water by copious purging with salines immediately before the operation. The intestinal tract should be thoroughly, but gently, emptied by the administration of castor oil the day before and an enema a few hours before the operation. He is allowed to drink water up to within one hour of the operation. The kidneys cannot secrete urine when the system has been deprived of its water. In surgery of the urinary tract, particularly prostatic surgery, a great deal can be done to help the patient by continuous bladder drainage through a catheter retained in the ureter for a few days prior to operation, or in very bad cases suprapubic cystostomy performed under local anesthesia. In this way back pressure is removed from the kidneys and they will functionate much better, thus improving the patient's condition and increasing his resistance to shock, sepsis, and post-operative anuria.

Having decided to operate, the patient should be prepared and anesthetized with as little confusion as is possible. This is an anxious time for most patients, and their mental state should be as composed as possible. If the patient is particularly nervous he should not be required to walk into the operating room, mount the table, and there take the anesthetic. This should be administered in a near-by room where all is quiet. Ether is the anesthetic to be generally preferred, but in bad risks, such as old people and those known to have a bad heart or bad kidneys, where operation is imperative, nitrous oxide-oxygen is the anesthetic of choice. There is less toxicity carried into the circulation from this than from any other anesthetic and less cardiac and respiratory depression, hence less liability to kidney disturbance. The patient is not left saturated with the anesthetic and is seldom troubled with nausea and vomiting afterwards.

The operation should be done as rapidly as is consistent with good work; for the longer the operation the greater the shock, and the greater the shock the greater the circulatory disturbance, in consequence of which the blood supply to the kidney is diminished, a very apparent cause of renal inactivity. The surgeon should not waste any time lecturing or demonstrating the operation to bystanders, the same as if he had a cadaver before him.

His whole duty is to the patient who is under an anesthetic and besides, surgeons are not made by watching surgery at a distance for ten days or two weeks. In short everything should be done to lessen the shock and amount of anesthetic.

The surgeon's duties to the patient do not end with the introduction of the last suture. A great deal can be done in the next few hours to sustain renal activity and to prevent urinary suppression, immediately following the anesthetic the patient should be given oxygen inhalations. In old people and bad risks this should be continued for several hours. This same class of cases should receive at least two pints of saline solution under the skin and when returned to their beds proctoclysis of saline solution about forty drops to the minute should be started and continued for several hours. Repeated at intervals for several days if there are any evidences of renal failure. As soon as the patient awakens from the anesthetic he is given hot water and plenty of it. The conditions existing during an operation are those that tend to produce an inactivity of the kidneys and these can best be overcome by increasing the blood pressure, by increasing amount of fluid in the vessels which bring more blood to the kidneys. The toxicity and acidity of the blood has been reduced by dilution and salt.

The former custom of withholding all fluids from the patient for twenty-four hours after operation and until drastic catharsis has been established, was all wrong and has no doubt worked greater disaster than we know.

Hiccough and persistent vomiting following operations is indicative of diminished renal activity and should be looked upon as a symptom or a note of warning rather than an independent complication, calling for special treatment.

Thus far we have considered those phases of the patient and the operation that would be prophylactic in nature. When these plans are followed there will be few cases of post-operative anuria. If shock and anesthetic are reduced to a minimum and proper care of patient before, during, and after operation, anuria will develop only in the desperate cases. When anuria does occur the best treatment is fluid introduced directly into the circulation, sweating, and morphine. Immediately on the development of suppression sufficient morphine should be given to keep the patient quiet. Formerly only salt solution was given intravenously, but Fischer's alkaline solution has proven more efficacious in acute anuria. This consists of giving intravenously in desperate cases, or by proctoclysis, forty to fifty drops per minute, in less pronounced cases a solution made as follows: sodium carbonate crystals 10 grams dissolved

in 200 c.c. distilled water and allowed to cool. This is then added to salt solution 14 grams to 1000 c.c. distilled water, sterilized and cooled. If these solutions are continued while hot sodium hydroxide will be formed which is very irritating. If given intravenously this amount can be slowly introduced and repeated in a few hours without harm. Very gratifying results have followed the use of this solution per rectum. In whatever manner it is introduced into the circulation, renal activity is resumed in a few hours. One must not give up if the effect seems transitory but it should be given often enough to keep up the effect until urine secretion has been produced and sustained.

As the skin is an avenue of elimination, sweating should be encouraged.

CASE OF CYST OF THE MESENTERY.

By A. H. BARKLEY, Lexington.

Cysts of the mesentery are by no means common. In some of the largest clinics they are seldom met with. They vary in size and in the majority of instances they excite no suspicion of their presence unless they are so located that they exert pressure or produce obstructive symptoms and even then they may escape detection unless of sufficient size to be palpated.

They are more frequent than solid tumors and their etiology and pathology are still not well developed.

The report of the following may be of interest.

On November 2, 1911, the writer saw this patient in her home, she had been in bed for ten days previous complaining of an intense soreness in the left side. Examination revealed the following: Mrs. H., age 32, white, married ten years, never pregnant, family history negative also personal history except when 18 years of age was struck in the left side by a horse, pain at intervals for a number of years that was more or less intense. When seen on November 2, 1911, there was a distinct tumor in the left hypochondriac region which was distinctly fluctuating and slightly movable. The spleen could be made out but there was a question regarding the left kidney as a diagnosis of hydronephrosis had been made with propriety sometime before I saw her as the urine would vary in quantity and there seemed to be some diminution in the size of the tumor.

On November 4, 1911, an incision was made through the left rectus and abdomen opened the tumor presented with the descending colon overlying it, the peritoneum was split and a cyst about the size of a grape-fruit was removed without difficulty. The location was to the outer side of the descending colon just

below the splenic flexure, its removal in no way affected the blood supply of the bowel. The recovery was uneventful.

The contents macroscopically resembled turbid serum.

DEFORMITIES OF CHILDREN.*

By W. A. MCKENNEY, Falmouth.

I have chosen for my subject for discussion deformities occurring after birth, or acquired deformities, deformities existing at birth, while of great importance, are not nearly so much so as those occurring after birth. A great many of them are remedial, they are wholly unpreventable, while in those occurring after birth are better prevented, than cured. Therefore I have selected those occurring after birth as being of the most importance, both to the medical profession and to the public in general.

In writing a paper on this subject I shall endeavor to bring out some points of practical value, rather than to confine myself to any one deformity or any class. Books might be, and are written on the various conditions that are met. I do not expect to advance anything new, but to call your attention to the early recognition, as it is in the borderline cases that are of the most importance, not only to the doctor but the patient as well, for if the doctor is on the lookout for the earliest symptoms he will be able to prevent the majority of deformities that occur. After they do occur they are easily recognized and treatment does not offer so much.

I have divided my subject into three heads 1st, Those resulting from nutritional disturbances or disease; 2nd, mechanical causes; 3rd, habit.

There is one condition that stands out pre-eminent as a cause of deformity, because it occurs at an age of early development, and I shall speak of it more at length than any other, and that is rachitis, it being the most common disease followed by deformity. There are various theories regarding Rickets some claim it is a dystrophy, some believe it is due to toxins received by special inheritance others believe it is due to alimentation. All regard it as constitutional. It occurs between the 6th and 30th month. Bad diet, bad hygienic surroundings, improper food, ignorance, disregard of the laws of nature, as well as inheritance, feeble digestion, defective assimilation, offspring of tubercular or syphilitic parents, are predisposing causes. The symptoms of which are digestive disturbances, restlessness, profuse sweating about the head and face, a loss of flesh or flabby appearance and a failure of development, and

*Read before the Pendleton County Medical Society

terior fontanel fails to close by the usual time the child is slow about cutting teeth, and if the disease has a good hold you will find the ends of the long bones beginning to enlarge, for with this disease is associated the softening of the bones due to the absence of the earthy salts, and by their being soft we can readily see why they will bend in almost any shape. After the disease has become well marked you may find almost any deformity of the bones. I shall only mention a few without any attempt to describe them. First in importance is deformity of the pelvis, due to a narrowing of all diameters, and of great importance to the obstetrician; shortening of the stature due to bending of the long bones, such as bow legs; enlargement of the head, caused by failure to close of the sutures and fontanels.

The double jointed appearance caused by the epiphyseal cartilage failing to unite, and the "Rosary" familiar to all. Tuberculosis of bone is of almost as much importance as rickets, especially where it involves the joints, as hip-joint disease, ankylosis of other joints, and atrophy from long continued disease.

2nd. Those conditions due to mechanical obstruction and their results. Enlarged tonsils and adenoids, by obstructing the upper air passages, interfere with the free-passage of air through the proper channel, the nose, and in order to gain relief the child breathes through the mouth. In time this becomes a fixed habit which after a time brings about certain changes of form and features. By the continual pull of the muscles on the superior maxilla, the masseters and buccinators pulling downward they gradually narrow the bones from side to side, while at the same time the face becomes longer and narrower, changed in all directions toward the point of least resistance. By the action of the levator and tensor palati muscles to increase the breathing space, they pull the palate upward and backward.

And from these various actions of the muscles the arch of the palate is greatly increased. The whole combined action lengthens the face and also narrows it, the nose does not develop from disuse, and the whole physiognomy is changed. Because of the obstructed breathing when there is need for more forcible respiratory action, the shoulders and base of scapular are fixed and the combined force of the trapezius, the pectoralis minor, serratus superior and inferior and the rhomboidei acting on these parts, gradually pull the shoulder tips forward and the scapular outward, giving it the peculiar winged appearance, and the constant pull on the shoulder gives the round shoulder or humped back appearance, which is a deformity, for no one ever saw a humped back baby born. One of

the worst features of this bending forward is to compress the lungs thus narrowing the breathing space and predisposing to tuberculosis.

HABIT DEFORMITIES.

Those occurring from improper positions of the body when long continued. This perhaps does not properly belong under the head of deformities of children but it is so closely allied to those just mentioned, I feel that it will not go amiss to bring them up here, because they occur at an age of early development. The various curvatures of the spine, due to carrying weights as a baby astride the hip, wearing high-heeled shoes, and improper fitting shoes, throws the weight of the body on the ball of the foot, and the heel, without any support to the arch, this causes it to give way thus causing flat foot. Also young girls about the age of puberty, from wearing high-heeled shoes it causes the peculiar kangaroo walk, from the bending forward of the knees, in order to keep the proper equilibrium of the body, this throws it out of its natural shape and may cause a greater curvature of the spine in the lumbar region by throwing back the shoulders. And the rotating outward and backward of the greater trochanters, broaden the hips and consequently narrowing the pelvis from before backward. A condition that is of great importance to the obstetrician. I only mention a few examples as any unnatural position of the body long continued in the young, growing child will bring about abnormalities.

Now a few words as to the treatment. In all the conditions that I have mentioned the ounce of prevention is worth more than the pound of cure. Orthopedists have invented various ingenious devices for the correction of deformities, and surgery has been employed to a large extent, and some of the most beautiful technique worked out, and the results have been remarkable. Other means such as gymnastics and massage, all have been employed to correct the evils, but the prevention is worth them all.

I have endeavored in a general way to speak of some of the common deformities, their causes, and their results, and I hope these few homely remarks will cause you all to be more on the lookout for them, and that you will not pass them up lightly, but will endeavor to instruct those that are responsible for the child, of the results of neglecting a condition that may be easily prevented at first, but if permitted to go on without any care will remain as a permanent injury throughout the life of the individual if it does not greatly shorten their days.

ATYPICAL CASE OF PERITONITIS WITH OBSCURE ORIGIN.*

By W. S. GABLIART, Mackville.

Mrs. J., age 35, mother of three children. Had been healthy all her life. After doing a hard morning's work, ate a hearty dinner of sausage and other things. In the evening she complained of headache, pains in back and limbs, which was relieved by acetanilid and codeine.

The following day she seemed still better. The next day, being the third day, I was called to see her for the first time. She had taken a dose of salts the night before and had had forty bowel actions that day. The actions were watery and only a very small quantity of blood, temperature 102 1-2, pulse 120. Slight distention of abdomen, and tenderness all over abdomen on deep pressure, but no localized pain. Had vomited once. Vaginal examination negative. Urine normal.

Following day (fourth) temperature 102, pulse 120. Distention slightly increased.

Next day (fifth) all symptoms had grown worse, and had developed some pain over abdomen, first here and then there, but never localized.

Sixth day, temperature 101, pulse 120, and seemed much brighter.

Seventh day distention was great, and the pinched features of a general peritonitis had developed. She died on the eighth day.

The treatment consisted in the relief of the headache and muscular pains by acetanilid and codeine, followed by magnesium sulphate at bedtime.

The severe diarrhea could only be controlled by morphine, 1-4 gr. hypodermically, checking from 40 actions down to 7 the following day, and two the third day.

Turpentine stupes were used over abdomen medicated enemas were given, Fowler-Murphy method of treatment was carried out without any results. Stimulants were given, and only late in the disease was it necessary to use any remedy for the relief of pain.

Dr. M. W. Hyatt saw her with me and we considered it a very interesting case in regards to cause, irregular course and absence of many of the prominent symptoms of peritonitis.

*Read before the Washington County Medical Society.

CASE REPORT OF QUADRUPLETS.

By C. T. RICKETTS, Bright Shade.

Mrs. Goodman Lawson, on August 25, 1911, gave birth to four children, three girls and one boy.

The mother is twenty-one years of age, has one other child. This being her second time in pregnancy. Two of the children were born dead, and the other two lived over an hour. The mother claims twenty days before her time, but the children looked to me to be at her time for delivery. The largest child, six pounds, which was dead, first born. The second born was living, five pounds. The third born was living, three and one-half pounds. The fourth, born dead, four pounds. The skin of the dead children was rather blue or dark.

Four weeks before her delivery I was called to see her. She complained of being too full and smothery. She felt movement only high up in the right side of the abdomen. She was also having trouble with lower bowel. I made a digital examination and found the mouth of womb much thickened, but no dilatation. She was still active and kept on her feet all the time during the day up to the delivery. She is a woman that will weigh 140 pounds, tall and rather slender, but a stout woman. She has always been used to hard work, such as farm work, goes into the field with her husband. They are very poor people. The father of this mother at one time had syphilis. He has two girls, one older and the other younger than this mother, which show the effects of the disease.

The father of the children is a low, heavy-set fellow and strong.

If anything more is wanted to this case, please let me know and I will furnish it at once with pleasure.

FIBRO-ADENOMA; REPORT OF CASE.*

By C. R. GARR, Flemingsburg.

I saw this case with Drs. Reeves and Evans of Bath county. Patient, female; age 15, white. Family and personal history good. Appearance, healthy and robust. Menstruation fully established at the age of 14 years.

About one year before the right mammary gland began to develop more markedly than the left. So rapid was its growth, that on account of its weight, having to be carried in a sling, and resulting deformity, that the patient readily consented to sacrifice the breast. There was no retraction of the nipple, glandular enlargement, adhesions to the skin, nor cachexia.

On December 6, 1906, assisted by Drs

*Read before the Fleming County Medical Society.

Reeves and Evans and Dr. Brice, of Flemingsburg, the right breast was removed, the mass weighing five pounds. The tumor was firm, elastic, lobulated, and surrounded by a capsule. While no pathological examination was made, the macroscopical appearance did not indicate a malignancy. It was not necessary to ligate any blood-vessels. The case made an uninterrupted recovery and there has been no recurrence of any trouble.

Our text-books do not mention this as any rare condition, but this was the first and only case of the kind that I have encountered during thirty years in a country practice.

HOW DO WE AND HOW SHOULD WE TREAT A BROTHER PHYSICIAN?*

By R. T. HOCKER, Arlington.

The young doctor having finished his office and college course, enters upon his life work expecting every physician to be his friend. It is perfectly natural for him to expect a hearty welcome to the active duties of the profession, and kind, courteous treatment from its members. Having spent more than two years at college, he has found no body of men truer to each other than his fellow students. They often being referred to as clanish. This principal prevailing among them being possibly equalled only by the clans of Scotland of two or three centuries ago, or among veterans of the army.

But the awakening will probably soon come, not requiring but a brief period of time. The old, the middle aged and even the young "M. D.," of three or four years' experience are watching and waiting.

The first great crime preferred against him, is that of being young. The older men will occasionally or at long intervals strain their generosity almost or quite to the limit by "dawning him with their faint praise" by the remark: "He is a promising young man." Sometimes enlarging by suggesting that when he has ten or fifteen years' experience, he will probably be a pretty good doctor, sometimes kindly adding that when his experience in years has equalled mine.

Fortunately in some respects he gets well of his youth; then he too has profited by his experience, and pays doubtful compliments to his fellow physicians.

Doctors, like members of other professions, are not all bad, nor are they of that class, uniformly on bad behavior, fortunately some of them act almost invariably as gentlemen should, who are identified with a profession second in point of responsibility and worthiness to none save that of the clergy.

They, dealing with the morals and souls of

men, while we look after the well being of their bodies upon which depend the mental development to a great degree, and largely the moral deportment is influenced by these.

We sometimes avoid, instead of seeking to win the friendship of our neighbors. We listen to criticisms on his intelligence, his moral character, his ability as a practitioner, and his charges referred to as unreasonable. A shameful practice is entering into an agreement with a doctor in a neighboring town or community to invariably have him called when a consultant is needed. Too often it occurs that the consultant just happens to arrive first and proceeds to enlarge on diagnosis; he thinks and he knows he has no moral right to do either. Sometimes by a word or look he casts a stigma on the regular attendant, that he can never outlive, before his departure the great man announces even in the gravest cases "I can see nothing to keep this patient from getting well," thereby depriving the attending physician of his hard-earned laurels, in the event of recovery and in the case of death the result is much worse.

We should refrain from arming, button-holing and hugging the good patrons of other doctors. We allow a feeling of jealousy to enter our breasts toward another whose only offense is his business exceeds ours. Surely we have no right to complain provided he has won it by honorable means. We often dislike a new comer for no other reason than that he has come.

We act sometimes as though we felt ourselves superior to another, even socially and are careful that they be impressed with our higher scientific attainments. A few other failings are cynicism, crustiness and a disposition to quarrel and ungraciousness.

"Lest we forget." The young doctor refers to the elderly one as an "old fossil, he was possibly years ago a comparatively good physician, but he is out of date now." Be it said to his credit he adds to his generous treatment by saying, "Don't mention this, the old gentleman has always been very kind to me."

From what sounds pessimistic, we turn to the other side and hope to draw a faint picture of what ought to prevail among us, making our lives pleasanter and raising our profession in the estimation of the laity. We ought to greet each other cordially, cultivate fraternal relations, regarding each other as colleagues, co-workers in behalf of the afflicted and not as competitors. Our business naturally isolates us from each other. We ought to identify ourselves with and take an active interest in at least the local medical societies, and better still include the State society and American Medical Association, both for improvement in scientific attainments and becoming better ac-

*Read before the Carlisle County Medical Society.

quainted, the invariable result being that our affection for each other is intensified.

We ought to admit any man to fellowship among us whose deportment as a doctor is just possibly decent; request consultation in all cases of gravity or when there is doubt as to the diagnosis or treatment.

Both parties should be punctual in meeting the appointment, being exactly on time when possible; the attendant rarely causes trouble, the consultant should be perfectly fair, protecting his brother fully; endorsing his treatment or as near it as he can conscientiously, if he can not approve say nothing. Radical changes in treatment are, be it said to our credit, rarely necessary, and ought to be avoided if compatible with the interest of the patient.

Consultation should be strictly private and nothing said should be repeated unless necessary for the protection of the attendant.

We ought to explain that bills will be sent separately. We have no right to object to meeting any one suggested provided he is a man of good attainments and with whom our reputation is safe. The fees of both should be the same, with few exceptions, unless the consultant is a specialist.

It is a great mistake to make concessions. We may with propriety admit that medicine has its limitations but we ought to claim for it everything to which its grand successes entitle it.

In my retiring address as president of the Graves County Medical Society in 1879, I opposed as strong as I could pen it, rendering gratuitous services to ministers. I am proud of my membership in a county medical society that no longer treats these splendid gentlemen as paupers. This practice can not be too strongly condemned. It lowers the status of the profession, and lessens the independence and respectability of the clergy. Charge the established prices for all work unless more than two visits are made in one day, then a reduction we think is admissible. In summing up in all things we should act as becomes gentlemen; if we do not know how, we ought to learn. "Whatsoever ye would that men should do unto you, do ye even so unto them.

The Heart with Myoma.—Neu and Wolff present experimental and anatomic evidence to prove that there is not a special type of injury of the heart due to the presence of a myoma. In six cases in which the hearts were examined, they showed merely the results of injury from excessive losses of blood or wasting away of the body; that is, a tendency to brown atrophy or fatty degeneration or both combined, such as are common in these conditions.

SIMILAR CASES OF EXTREME AGES.

By JAMES Y. WELBORN, Evansville, Ind.

These cases do not present any very important features, yet are reminders of what any of us may see occasionally.

The extreme high age in the one and the young age in the other make them worthy of our attention. The first case, a man 84 years of age, who had been a sturdy man, but a hard drinker until he was 65 years old, at which time he measured his regular drinks sufficient to maintain a sober life. When 72, he noticed a right inguinal hernia, which had given no trouble until the present time. At this examination, I found a strangulated hernia of nine hours duration. The kidneys, heart and blood vessels seemed to be normal. The operation showed a sac filled with the caecum. The appendix, which was caught low in the sac by an adhesion, was held in such a way as to cut off its circulation. The appendix was long, the size of a thumb and perfectly black with gangrene. An appendectomy and herniotomy were then done, the patient making a nice recovery. The patient is now living, four years after the operation.

The second case is a baby five weeks old. The hernia came during the night and with it strangulation. The following morning I opened the sac, finding the caecum with an appendix almost like the first case. This appendix seemed less inflamed but was necrotic and was removed. The circular stitch of silk in the bowel was placed with difficulty owing to the soft tissue. Several stitch holes pulled out. The herniotomy was done by the usual method. This patient also made a perfect recovery. The baby is now a year old and has had no trouble whatever.

THE MODERN TECHNIQUE OF AN OBSTETRICAL CASE INCLUDING THE USE OF FORCEPS.*

By C. B. VAN ARSDALL, Harrodsburg.

The management of an obstetrical case should begin as soon as the fact of conception becomes known. Our duty to our patients demands that we educate them in the matter of putting themselves under the care of a physician at the earliest possible moment of pregnancy. There is probably no class of patients so uniformly neglected as pregnant women. So many of the dangers incident to the pregnant state are avoided altogether, or at least greatly lessened, by intelligent oversight that it cannot be said that our duty to our patients has been discharged until we

*Read before the Central Kentucky Medical Association at Danville, October 19, 1911; also the Mercer County Medical Society, November 14, 1911.

have done everything in our power to make plain this all-important subject. The danger from eclampsia is reduced to a minimum when a skillful and intelligent physician is on the lookout for premonitory symptoms, placenta previa, that terror to the obstetrician, is a much less formidable danger when an intelligent report and investigation of symptoms has been made plain the existence of the condition; extra-uterine pregnancy may be diagnosed in time to save life by a surgical operation; many of the ordinary complications of pregnancy may be escaped or rendered unimportant; abortion and miscarriage avoided and the pregnancy carried to a happy termination; and in general the welfare of the patient and her comfort and peace of mind may be so promoted by a little attention at the right time that we can hardly overestimate the importance of having these patients constantly under our care.

With this preliminary statement of what seems to be of first importance, it will be proper now to consider in detail the actual management of an obstetrical case.

The urine should be frequently examined for albumen. My patients are directed to bring a liberal specimen once a month up to the seventh month, then twice a month. If albumen is present in any considerable quantity, a microscopic examination should be made to determine the presence or absence of casts. It is important that a quantitative test for urea be made in certain cases, but in my experience difficultly is experienced in obtaining the bromine in a usable container. It seems to me, if it could be put up in strong glass pearls similar to those containing amyl nitrite, each containing 1 cc, it would be possible for the general practitioner to make this test with only a tithe of the inconvenience and danger of the present method.

If albumen is present in any considerable amount with a goodly number of casts, the patient should be placed at once on a fluid diet, given diuretics, and watched closely.

The common symptoms of nephritis should be explained to her, with instructions to report as soon as any of them appear. These instructions to the patient, with others that will suggest themselves, may with advantage be embodied in a printed card. The cost is small, and will be more than repaid by the lessened trouble to physician, and added security to patients in the case of any physician who has any considerable obstetrical practice among the more intelligent class of people.

Six weeks before the estimated date of confinement a careful examination should be made for the purpose of determining whether the expected date is approximately correct, as well as to learn if any abnormality exists.

The pelvimeter should be used in every case, as it gives a fairly accurate idea of the size and condition of the pelvis. The measurements should determine the distance between iliac spines, iliac crests, trochanters, and the external conjugate or so-called Baudeloque's diameter. If the measurements bear an approximately normal ratio to each other, an internal examination may be dispensed with; but if these measurements indicate an abnormal pelvis, the diagonal conjugate should be measured per vaginam. At the time of this examination the lying-in room should be inspected and suggestions made as to its preparation and arrangement; at the same time a list of articles to be procured from the druggist and kept in readiness should be furnished the patient. This should include chloroform, ergotole, bichloride tablets or other antiseptics, boric acid, sterile cotton, umbilical tape, sterile vaseline, green soap, alcohol, etc. Directions should be given as to the preparation of sterile sheets, towels, bed and vulval pads, and as to keeping in readiness several bowls or granite-ware basins, fountain syringe etc. The nurse will prepare an abundance of boiled water, both hot and cooled for immediate use.

I direct the patient to call the nurse at once at the onset of pains, and to notify me at once if it is in daytime, so that I may keep in touch with the case during the day; but if the pains begin during the night, to wait until morning, or till the pains become severe enough in the nurse's judgment to require my presence, as I am most likely to be at home in bed and can respond quickly whenever called.

The obstetrician should prepare and keep constantly on hand ready for immediate use a bag containing everything necessary for an ordinary obstetrical case and all the ordinary obstetrical operations. This should include a case of instruments (uterine and perineal), forceps, various antiseptics, ligatures and needles, cathartics, tractor, chloroform and mask, tape for tying the cord, a sterile gown and towels, pelvimeter, vaseline, green soap, powder, and various other small articles, together with a box with top, large enough to contain forceps, during sterilization.

As soon as the pains begin, the patient should take a full bath and a rectal enema. It is not necessary for her to go to bed at first; on the other hand it is probably better for her to be on her feet until the dilatation of the cervix is complete, but after the membranes have ruptured, it is better for her to lie down at once. The legs of the patient should be covered with sterile towels or sheet in such a way as to leave only the vulva exposed. Unnecessary exposure of the patient is always to be avoided. The bed should be a

firm mattress covered with a rubber sheet, over that a plain sheet, then a small rubber sheet under where the patient's hips will lie and over that a draw sheet. The upper sheet and rubber may then be removed after labor, and the first sheet and rubber remain.

In many cases a vaginal examination is not necessary, and in no case should it be made unless it is necessary. There is entirely too much "tinkering" along this line. It subjects the woman to needless pain and annoyance, and adds risk of infection. When it becomes necessary, it should be carried out under the strictest aseptic precautions. The woman's vulva should be washed with soap and water and then with a bichloride solution (1-2000) or other antiseptic solution, and protected by a sterile towel until ready for the examination. If the pubic hair is long, it should be shaved, or at least closely clipped, as it is in the way of all manipulations, and is a frequent source of infection, particularly if forceps are to be used or a laceration repaired. The physician's hands should be scrubbed at least five minutes with water and soap, preferably *sapo viridis*. The nails should then be clipped, cleaned, and filed. This is followed by alcohol and a bichloride solution (1-1000). In going then to the examination the hands should not be allowed to come in contact with bed-clothing or other objects, as all disinfection is thereby rendered futile. The labia are separated by the fingers of the left hand, and the first two fingers of the right hand well anointed with vaseline are carefully inserted without coming in contact with the labia majora, as it is difficult to render these parts absolutely sterile, and the inner surfaces of labia minora and vagina are normally sterile at the time of labor. If repeated examinations become necessary the same rigid technique should be followed at each examination. A simple washing with soap and water is not sufficient preparation for an internal examination. The woman is in great danger from her physician at this point, and many a one has suffered serious consequences, even death in too many instances, as a result of carelessness or laziness or ignorance on the part of the obstetrician. Either of these faults becomes a crime when it endangers the life or health of a human being. It is much better for the physician to rely upon external palpation through the walls of the abdomen, than to resort to vaginal examinations. The four maneuvers ordinarily described will tell him almost as much and almost as accurately, and the danger of infection is eliminated. The position of the child may thus be determined at the preliminary examination and at any time during labor. After a little practice it is surprising how much may be made out in this way.

The nurse should be instructed as to the proper procedures necessary to render her person aseptic, particularly her hands and her clothing. She should wear a fresh, clean gown or dress, should know how to handle the towels, pads, and other dressings, and to care for the patient without contaminating them.

As soon as the pains become expulsive in character, the so-called second stage of labor, an obstetrical tractor may be made use of, thereby dispensing with the necessity of wearing out two or three women pulling on the woman's hands and incidentally saving the patient herself the not inconsiderable soreness resulting therefrom. As the labor nears its close, it is convenient to have a small table near at hand, covered with a clean towel, and carrying the articles ordinarily needed. I place on it chloroform and mask, two hemostats and a small pair of scissors for clamping and cutting the cord, a roll of sterile absorbent cotton, a generous pile of sterile towels, a sterile gown, umbilical tape, and other articles suggested by the individual case.

Chloroform should be given in practically every case; there are very few contra-indications to its use. Women in labor seem to be immune to its dangers. Even severe heart disease is no contra-indication to its use. It should be reserved until the head begins to emerge, and then given at the acme of each pain, and pushed to unconsciousness a minute or two before birth. Much has been written on the subject of protecting the perineum from tears; probably the best that can be done is to hold back the head until the acme of the pain is passed, and then allow it to emerge slowly between pains. After the head is born the fingers should be slipped up around the neck to determine whether the cord is wrapped around it. If it is, it can usually be slipped over the head and freed; if it is wrapped too tightly for this, two artery clamps should be immediately put on and the cord divided between them.

If the child breathes well and seems normal, it may be turned over to the nurse as soon as the cord is ligated; and will require no further attention from the physician except a dressing for the cord. When there is reason to suspect gonorrhoea, each eye should be treated with a drop of silver nitrate solution (one per cent).

The third stage of labor, the extrusion of the placenta, may in many cases be left to nature, without assistance on the part of the physician; if it is not expelled spontaneously within thirty minutes after the birth of the child, it may usually be brought away by the method of Crude, kneading the uterus to force it to contract and using it as a piston to force

down the separated placenta. This should not be done, however, if the rising up of fundus above the level of the naval shows that the placenta has become detached from the uterine wall and lies in the lower uterine segment or in the upper part of the vagina. Kneading may then be dispensed with and the placenta expressed as above; this is Williams's modification of Crede's procedure. It is advisable to examine every placenta carefully to determine whether it has all come away and whether it presents any abnormality.

After the third stage of labor, a dose of ergot may be administered, but this should never be given until after the membranes have all passed. In many cases it is not necessary. I generally give one drachm of the fluid extract, or one-half drachm of Sharp and Dohme's ergotole when the patient is in the country or not easily accessible, with directions to repeat if the lochial discharge is excessive; this will guard against possible serious hemorrhage in my absence. In cases in town or where they can be easily reached I do not give it unless there is excessive bleeding. If the hemorrhage is alarming, it should be given hypodermically deep in the muscles of the gluteal region; for this, ergotole is preferable to the ordinary fluid extract as it is less irritating.

Any lacerations should be looked for and repaired at once, preferably with silk-worm gut sutures. This is too frequently neglected by the general practitioner, either because of laziness, ignorance, carelessness, or a desire to boast that he does not have tears in his lying-in patients; whatever the reason, many thousands of women are doomed thereby to lives of misery and unhappiness. No physician has a right to accept obstetrical patients unless he is prepared and determined to search carefully for and to repair immediately any laceration that may occur. Lacerations will occur, often through no fault of the physician, and he should not look on them as a reflection on his professional ability or skill. Even after the most careful repair, results are sometimes bad owing to the sloughing of the parts; but everything possible should be done to bring about a good result.

After the patient has been cleaned up and made comfortable she should be allowed to rest quietly for several hours. Sterile absorbent cotton or vulvar pads are to be used and the vulva washed with a solution of bichloride of mercury (1:5000) at each change. Her diet should be tea and toast the first day, principally because she will want nothing else. Other articles may gradually be added as her appetite returns, until in a few days she is taking a fairly full diet. It should be very nourishing, so as to promote a free flow of milk. The baby should be put to the

breast soon after birth and three or four times a day until the milk flow is established, and at regular two-hour intervals thereafter. Before and after each nursing the mother's nipples should be gently but thoroughly cleaned with a saturated solution of boric acid, and the baby's mouth similarly treated before nursing; this will prevent many a troublesome case of mammary abscess, as well as of thrush.

When a day or two after delivery the patient shows an elevation of temperature, let us be honest with our patient and with ourselves and call it a case of puerperal infection, mild or severe as the case may be; and not say the woman has "malaria." It is probably true that not one such case in a hundred is malaria, and we should not call it so. Malaria is a rare disease in Central Kentucky, and the term is certainly too loosely employed. As McCrae says, it has the faculty of satisfying the patient, sharing this honor with "rheumatism," "too much uric acid," "something wrong with the liver," but the frequent use of these terms is a sad commentary on the diagnostic ability or honesty of the physician.

In some circumstances it will be found impossible to conform to all the foregoing rules, but they should be carried out as far as possible in every case; and we should be sure that neither carelessness, neglect, nor laziness induces us to omit any possible care that will make for the safety of our patients.

In the use of forceps it must be remembered that there are two important rules to guide us: (1) There must be no marked disproportion between the head of the child and the pelvis of the mother, and (2) Their use must be demanded by the condition of the mother or of the child. Mere saving of time should not induce us to resort to this procedure so dangerous to both mother and child. But when any condition threatens the life of either, and there is no marked disproportion between the child's head and the mother's pelvis, the use of forceps may save one life or perhaps two. The most rigid aseptic technique should be observed in their use, as lacerations are very likely to occur, with the attendant danger of infection.

You are familiar with the terms "low forceps," "mid-forceps," "high forceps," and "forceps on the floating head;" designated according to the position the head occupies, and named in the order of increasing difficulty of application. For the high operation the Tarnier axis-traction forceps are indispensable. The following conditions must be fulfilled before forceps can be safely applied:

1. The presentation must be correct.
2. The cervix must be fully dilated or dilatable.

3. The membranes must be ruptured.

4. As said above, no disproportion must exist between the head and the pelvis.

The application should always be made with the object of applying them to the sides of the head along its occipito-mental diameter, with the parietal bosses in the fenestra of the blades. This results in much less injury to the child, and is much better in other respects, than the so-called pelvic application, which takes into account only the sides of the mother's pelvis, without regard to where the blades catch the baby. This presupposes a careful diagnosis of the position of the head, by the sutures and fontanelles. The first blade applied should be held in the fingers of the right or left hand, according as it is to be applied to the right or left side of the mother's pelvis, and inserted posteriorly on the fingers of the other hand as a guide, very little force being used; then while this blade is held up out of the way by an assistant holding it, a sterile towel is necessary, the other blade is gently introduced on the fingers of the other hand as a guide. Then the blades are locked. The blade that will be most nearly posterior when in position should always be inserted first if possible. Traction is made downward at first, then as the head emerges, upward more and more until at the moment of delivery the handles are up over the abdomen, as the head is born with a movement of extension. The aim should be to imitate natural pains as far as possible, intermittent traction being made so as to distend the outlet gradually. Often the forceps may be removed just before delivery is effected, thus lessening the danger of extensive laceration.

When the occiput is posterior, the forceps are applied according to procedure suggested by Scanzoni. This is merely a double application, the first application being made as if it were an anterior presentation, the head then being rotated to bring the occiput into the anterior quadrant of the pelvis. This throws the curve of the blades downward, so that they could not be used, but they are simply taken off and re-applied to the anterior position. Any one who has tried this apparently complex procedure, and has seen a difficult labor change quickly into a simple one with really remarkable ease, will be glad of another opportunity to test its efficacy.

"Leopold has stated that the forceps is the bloodiest of all obstetrical operations, and this is undoubtedly true, if the child is rapidly dragged through a partially dilated birth canal by brute force. On the other hand, if properly employed, it is a means of saving instead of destroying the perineum, inasmuch as the exit of the head can be controlled more effectively by means of the forceps than by any other procedure."—(Williams).

NEWS ITEMS AND COMMENTS

BOONE—Dr. I. C. Perkins, who has been practicing at Grant, Boone county, for several years has gone to New Mexico on account of ill health.

BELL—Dr. L. D. Hoskins, who has been practicing in Pineville since January, 1910, has moved to Fowlerston, Texas, where he will make his future residence and practice his profession.

JEFFERSON—His many friends will be glad to know that Dr. Ap Morgan Vance, of Louisville, whose serious illness has been heretofore noted, is rapidly improving and will shortly resume his active work.

OLDHAM—Dr. Eleanor A. Harthill has gone to Corpus Christi, Texas, to visit her brother, Dr. Caldwell and Mrs. Caldwell. During her absence, Dr. R. B. Pryor will act as assistant secretary of the Oldham County Medical Society.

TAYLOR—Dr. Carter B. Buchanan, who since his graduation last June, has been in the U. S. Marine Hospital service, located at Chicago, Illinois, is now at home. Dr. Buchanan is with his father, Dr. J. B. Buchanan, of Campbellsville, but has not entered in the practice of his profession yet.

HOPKINS—The Hopkins County Medical Society held a joint meeting with the ministers, teachers, dentists and physicians of Hopkins county, which was done for the purpose of stimulating cooperation among the four professions.

GRAVES—The JOURNAL ANNOUNCES with regret the death of Dr. D. H. McMasters, at Pryorsburg, of dysentery.

The entire profession of the State will sympathize with Dr. George T. Fuller in the death of his little daughter, Mary, who died from a sarcoma, involving a right shoulder and arm, on March 13th.

BOYLE—Mrs. Ida Barker, of Danville, died April 18th, at her home from pellagra. This is the first death that has resulted in this portion of the state from his new disease. Mrs. Barker had lost her mind as a result of the infection, and was several days ago ordered sent to the asylum by a jury in the circuit court.

BARREN—Dr. J. W. Acton, of San Marcos, Texas, has moved to Glasgow, Ky., where he will practice his profession. He is an old resi-

dent of Lincoln county and moved from King's Mountain to Texas a year ago. We are glad to welcome him back to Kentucky, and feel certain he will make a useful member of the Barren County Medical Society.

CLARK—The doctors of this city have organized for the purpose of giving a fair, the proceeds of which will be used for the benefit of building a hospital for Winchester. The dates were fixed as August 6-10. The following are the officers: Dr. D. H. McKinley, president; Dr. E. R. Bush, first vice president; Dr. Howard Lyons, second vice president; Dr. Ernest Cole, treasurer; Mr. G. Lee Waincott, secretary.

JEFFERSON—Dr. I. N. Bloom, who has been spending the last ten days in New York and at Yale with his son, Mr. Nathan P. Bloom, has returned home.

Dr. J. T. Windell returned several days ago from New York, where he attended the meeting of the American Urological Association, held last month at the Astor House.

Dr. Thomas L. Butler and Mrs. Butler and Miss Alice Short are spending some time in New York City.

BOYD—Dr. Manley C. Warren, of Buchanan, died February 20th, at his home. He was the honorary member of his class at Jefferson Medical College and a specialist on Bright's disease.

Dr. J. A. Pritchard, of Mavity, has located at Buchanan, and is occupying the office of the late Dr. Warren.

Dr. J. C. Wheeler, of Lawrence County, has recently changed his location to Buchanan.

WOODFORD—"At the request of the Civic League the State Board of Health sent Dr. W. L. Heizer, their best sanitary inspector, to Versailles, April 17th, to look over the conditions there with a view to ascertaining the cause of the fevers, which have existed to such an abnormal degree in this community. Dr. Heizer addressed a public meeting at the court-house on Thursday, April 18th, giving the result of his investigation and suggesting a remedy for our troubles."

CARLISLE—We are exceedingly sorry to record the death of Dr. W. T. Graves, of Bardwell, who died on March 18th, at the age of 63. Dr. Graves enjoyed a large practice and the esteem of all who knew him. He was a member of his county and State societies since 1906, and took an active interest in promoting the interests of his fellow practitioners.

Dr. T. J. Marshall resigned as County Health Officer and Dr. R. T. Hocker was elected to succeed him on April 10th.

BARREN—Dr. A. T. Botts, who has been located at Cave City during the past four months has returned to Glasgow where he will practice in the future.

Dr. T. F. Miller, of Goodnight, who has been on the sick list for the past ten days, is able to be out visiting his patients again.

Owing to the inclemency of the weather and bad roads, the Barren County Medical Society has not met during the past four months but expect an interesting program for the May meeting and all during the summer months.

SCOTT—The members of the Scott County Medical Society had as their guests on April 11th, the Kentucky Midland Medical Society. This is one of the best district medical societies in the South and as usual there was a representative assembly of doctors from Central Kentucky. Dr. B. J. O'Connor, of Louisville read a paper on "Vaccine Therapy" which was discussed by Dr. E. B. Bradley, Lexington. Dr. E. C. Barlow, of Georgetown, read a paper on "The Simplest Clinical Test of Urine," discussed by Dr. S. L. Beard, of Shelbyville. "Open Treatment of Fractures" was the title of a paper by Dr. B. F. Vanmeter, of Lexington, discussed by Dr. O. H. Reynolds, Frankfort. Dr. J. A. Stuckey, of Lexington, presented a paper on the "Trained Nurse Question," discussed by Dr. U. V. Williams, Frankfort.

FAYETTE—Embodied in the report of the special committee, which went to Mont Clair, N. J., recently to investigate sanitary conditions there, which was read April 19th at the meeting of the Board of Health, were a number of recommendations, which the board hopes to apply to Lexington when it formulates its new sanitary code.

The report, which was unanimously accepted, is being put into shape for printing. The members of the special committee who went to Mont Clair were Dr. W. O. Bullock, president of the board; Dr. N. R. Simmons, Health Officer, and Dr. R. M. Allen, pure food expert.

The board recommended that the Waterworks Company, for a stated period, make a reduction from the price usually charged for tapping the water mains, in order to encourage those who have not already tapped to do so before real summer weather sets in. The Water Company has usually done this at the request of the Board of Health, and it is thought they will comply this time.

The Water Company having reported some trouble experienced by one of its inspectors on a trip of inspecting some property which lies on the watershed of the reservoir, the inspector was appointed a deputy under the

Board of Health, in order to give him authority to compel the property owners to submit to the inspection. It is probable that the county board will take similar action for the purpose of better protecting the water supply of the city.

WEBSTER—There is an epidemic of small-pox in Providence, Webster county. At the request of the county officials, Dr. Heizer, of the State Board of Health, addressed a meeting of the citizens of Providence.

BULLITT—The following notice from the Bullitt County Board of Health will be of interest:

"To the Citizens of Shepherdsville and Bullitt County.

"Owing to the prevalence of cerebro-spinal meningitis and other infectious and contagious diseases in Jefferson and adjoining counties, we take this means of calling the attention of the people to the necessity of cleaning and disinfecting their premises. This, as well as most all other contagious diseases, has its origin in dirt, dust and filth, and the removal of this matter does away with the breeding grounds of the germs and thus puts the only effective check on disease. The State Board of Health is demanding that the people, especially in the small towns, take steps at once to place their premises in a sanitary condition. To do this it is imperative that you remove all accumulations of garbage, decaying animal and vegetable matter, and especially the off fall from barns, stables and hog pens, as these are the special breeding places of the ever present house fly and it has been proven that one of these fellows can carry enough typhoid fever germs on his feet to infect an army. Screen your houses to keep him away from the food you eat, but do away with his birth place and you have ended his career more effectively. The orders of the board are that this cleaning up must be done by April 20th and those who refuse or neglect to attend to this matter by that date will have to be proceeded against according to law. This is to your own advantage and not your neighbor's and may save you much in more ways than dollars and cents. Clean up. Clean out. Keep clean. Remember that dirt, dirth and the Devil are your personal enemies.

"Bullitt County Board of Health,

"Dr. G. W. Kirk, Chairman,

"Dr. S. W. Bates, Secretary."

FAVETTE—Lectures, demonstrations and special exercises calculated to impress upon both teachers and pupils the importance of sanitation and hygiene in the schools, as well as in daily life, were the features of "Health

Day" which was observed April 15th, in all the public schools of Lexington.

Superintendent M. A. Cassidy and Dr. C. L. Redmon, Health Inspector for the Lexington schools, visited every school in the city during the day and at each school gave helpful talks on hygiene and sanitation, which in many instances were supplemented by special exercises, consisting of talks by the teachers, recitations, readable articles and demonstrations intended to impress the necessity of personal cleanliness, health rules, ventilation and care of the school rooms and premises where the children spend so much of their time.

At Dudley School, of which Mrs. Milford White is principal, there was an especially interesting program, in which teachers and pupils took part.

The movement to have the school children observe sanitary regulations and health laws has been very successful in other cities, notably in Cincinnati, where last year a campaign was waged which resulted in the formation of a league, whose work was evidenced in cleaner and more sanitary school rooms and grounds and in impressing upon all the spirit of the "City Beautiful."

The city health authorities everywhere have encouraged this movement, and much good is expected to result from it here in Lexington.

Later there will be a general cleaning up day, and the idea gained by the children from the talks, demonstrations and exercises of "Health Day" will be given a practical test.

KENTON—The Kenton County Anti-tuberculosis League held a special meeting on April 13th, at the residence of Harry B. Mackey to perfect the organization, the first meeting of which was held two weeks ago. It is the intention of the league to enlist the interest of every church, fraternal order, club and organization in Kenton county, so that in the end they expect to have at least 350 members.

A campaign of education will be started at once. Lecturers will be brought to Covington, and they will endeavor to show that tuberculosis is positively a preventable disease by proper living. A nurse was also engaged, and she will make daily talks to the classes of all schools and distribute literature.

One of the most important features of the organization will be the free dispensary, which will be opened May 1. The following prominent physicians will be in charge: Dr. J. R. Meek (Chairman), Dr. Tebbbs Raushaw, Dr. H. F. Wilson, Dr. R. W. Bledsoe, Dr. Charles Reynolds, Dr. Cliff Harris, Dr. E. N. Estes, Dr. Steve Sharp, Dr. James Ryan, Dr. F. G. Adams, Dr. Henry C. White, Dr. B. F. Menifee and Dr. H. P. Martin.

There will also be a medical council, to be appointed by Dr. J. T. Wallingford, who will

be Chairman. The free dispensary will be divided as follows: Four days and one evening will be given to the treatment of tuberculosis; one day to eye, ear, nose and throat; one day to surgery, and one day to general medicine.

The following permanent committees were appointed: Executive, W. W. Brown, Rev. Jas. T. Gorey, E. T. Gale, H. P. Colville, H. B. Mackoy, Alex. Klein; press and publicity, E. T. Gale, (Chairman), James Young, W. S. Groom, Dr. Meek; committee on finance, H. B. Mackoy (chairman), F. J. Hermes, W. W. Brown, W. N. Hind, C. A. J. Walker.

Most enthusiastic work will be started at once to organize Flag Day, which will be in six or seven weeks. Considering the importance of the fight against the white plague, the league is confident that it will easily raise \$5,000, as it will require fully that much money to carry out their plans.

FRANKLIN—Dr. Albert Stuart, of Staumoping Ground, Scott County, has recently moved to Frankfort, where he will practice his profession. He was a member of the Scott County Medical Society for several years and did much for that society and we feel sure he will be an addition to the Franklin County Medical Society.

JEFFERSON—B. Morgan Vance, son of Dr. Ap Morgan Vance, who is at present taking a medical course at the University of Pennsylvania, has been notified of his appointment as resident pathologist at Bellevue Hospital, New York City, for five years, beginning July 1 next. He will complete his studies at the University of Pennsylvania in June and will then take up his new duties. Young Vance was substitute interne at Bellevue last summer during his vacation. He is a graduate of the Louisville Male High School.

JEFFERSON—The old South Park Hotel, situated on an elevation in Jefferson county, eight miles beyond the city limits, on the line of the Louisville & Nashville Railroad Company, has been leased for a long term of years to Dr. E. G. Dick, resident physician at a Crab Orchard, (Ky.) institution. Dr. Dick plans to convert the building into a sanatorium for inebriates, to be opened on or about June 1.

The lease on the property was given by W. H. Harrison, of this city, the present owner. It contains a clause which gives Dr. Dick the right to purchase within a certain time after the date of expiration.

The hotel building once was popular as a summer resort, but has been closed for some time. It is three stories in height and con-

tains fifty-six rooms. Dr. Dick is at Brooks Station with his daughter, but will be present in a few days to direct improvements on the structure.

COUNTY SOCIETY REPORTS

Carlisle—The Carlisle County Medical Society met at Bardwell, March 19th, in call meeting and by unanimous vote a petition was sent Governor McCreary asking him to veto Senate bill No. 56. Members present, Drs. Payne, Dunn, Marshall, Crouch, Jackson, Lankin, Wm. Mosby. That being the only business the society adjourned.

J. F. DUNN, Secretary.

Christian—The Christian County Medical Society met in regular session March 19th, in the City Court Room, Hopkinsville.

Those present were: J. L. Barker, H. F. Bassett, J. W. Harned, Austin Bell, W. A. Haynes, J. Paul Keith, J. H. Rice, G. W. Laey, F. M. Stites, B. B. Roach, G. L. Gates, W. W. Durham, W. M. Bassett, W. A. Laekey, D. H. Erskintian, W. H. Watts, J. B. Jackson and W. S. Sandbach.

After the reading of the minutes of the last meeting, the President called for report of cases. There was several reported and fully discussed.

On motion of the Secretary, and seconded by Dr. Stites, the society passed resolutions condemning the Senate bill No. 56, and requested the Governor to veto same. The Secretary was instructed to write said resolution and mail to the Governor with a list of the members of the society.

W. W. Durham read a paper on "Diagnosis and Treatment of Diphtheria." This was one of the best papers of the year, and brought forth a discussion from every one present. The essayist emphasized the importance of using antitoxin in all doubtful cases and in large doses.

J. W. Harned quizzed the society for some time on "Prostatic Hypertrophy." This was our first quiz, and the Quizmaster proved himself "on the job." He brought back memories of school days which we all enjoyed.

W. W. Durham presented a very interesting clinic and the society went to the office of Drs. Keith and Jackson, where an X-ray photo of the tumor was made. The diagnosis was suspected and an exploratory operation was advised.

No further business was adjourned to meet the third Tuesday in April.

W. S. SANDBACH, Secretary.

Daviess—The Daviess County Medical Society met at the City Hall, Owensboro, on March 19th, with the president, W. E. Irvin, in the chair and thirty members present. As suggested in a com-

nuniation by our State Secretary, a committee was appointed to write our congressman urging him to use his influence to have a committee on Public Health appointed.

J. R. McGary read a paper on the "Use of Salvarsan in the Treatment of Syphilis." It was discussed by P. D. Killim, C. H. Todd, J. W. Barnhill, A. McKenney, W. F. Strimon, W. E. Irvin, D. M. Griffith, W. H. Strother, J. Glahn, S. J. Harris.

All agreed that when properly given in well-selected cases it produced good, sometimes wonderful and even magic results.

As to the mode of administering it, none used the subcutaneous method; most of them used the intra-muscular mode. In this way all said the alkaline solution caused too much pain and reaction; while the neutral suspension was sometimes, though rarely, not absorbed, and then caused local trouble. The essayist said he had used the intra-venous method, and considered it the ideal, but death had been known to follow such administrations.

J. L. Carter read a paper on the "Static Induced Current in the Treatment of Rheumatism." He went into the etiology of rheumatism, and told why this current would relieve it. His paper was discussed by I. J. Hoover, S. J. Harris, H. P. Bean, and others, and by the essayist in closing.

J. D. Roberts read a very interesting paper on "Pneumonia," which was discussed by M. A. McDonald, S. J. Harris and others.

J. J. RODMAN, Secretary.

Henry—The Henry County Medical Society met at the office of the Secretary on March 25th, at two o'clock p. m., meeting called to order by Alfred Waincott, President. Those present were: W. B. Oldham, W. L. Nuttall, O. P. Chapman, Everett Morris and Owen Carroll.

A. P. Dowden reported a case of appendicitis, operation with recovery, he also reported a case of stone in the bladder.

Owen Carroll reported a case of "Cerebro-Spinal Meningitis. Serum administered and prospect for recovery bright.

Everett Morris read a paper on "Diagnosis of Incipient Tuberculosis. A. P. Dowden opened the discussion.

The society unanimously recommended to the Governor the appointment of Everett Morris on the Tuberculosis Commission.

Meeting adjourned to meet April 29th, at 2 p. m.

OWEN CARROLL, Secretary.

Hopkins—At a meeting of the Hopkins County Medical Society held at the Young Men's Christian Association building, at Madisonville, at 10 o'clock in the forenoon, on Saturday, April 6th, 1912, the following proceedings were had:

The meeting was called to order by President

Eldred A. Davis, of Earlington, who made a few preliminary remarks regarding the purpose of the meeting, and called on Rev. W. J. Mahoney, of Madisonville, to invoke the blessing of the Deity.

The meeting then proceeded with the rendering of its program and Rev. W. J. Mahoney, being first on said program, addressed the audience on the subject heretofore assigned him, "The Relative Duty of the Ministers."

Prof. C. E. Dudley, of Earlington, next addressed the meeting upon "The Relative Duty of the Teacher," his opening remarks being as follows:

"Mr. Chairman, and I am glad to say: Ladies and Gentlemen, it is with pleasure that I am permitted to be present at this meeting and lend my mite to the program, I feel though that the mite will be small indeed.

I present a short paper, not with the idea that it will be exhaustive, but suggestive, which I will be pleased to hear discussed by you gentlemen who are better informed.

We have just heard a very excellent talk on the relative duty of the pulpit and medical profession, and we are to correlate with these two the duty of the Teacher.

I believe the teacher brings nearly everyone in touch with the work as completely as any one profession, because of the fact that gathered into our public schools are the children of all the families of the entire community; it is through this school that the future of the community is to be governed, consequently we are all interested along these various lines."

He then proceeded to read a paper prepared on this subject, which will appear in the Journal.

E. B. Hardin, of Madisonville, was called upon to present his views on "The Relative Duty of the Dentist." And after a few preliminary remarks as to the degree of delicious pleasure it afforded him to do so, he read a very interesting paper on the above subject.

L. E. Nichols, of Nebo, then addressed the meeting in a most masterful and exhaustive manner on the "Relative Duty of the Physician."

After completion of Dr. Nichols' address, the President of the meeting announced that the meeting was opened for a general discussion of the various subjects that had been so ably handled by those to whom same had been assigned, and called for voluntary and impromptu addresses by the representatives of the various professions present at the meeting.

D. W. Davis, of Morton's Gap, was the first to respond as follows:

"There is nothing for me to add to these papers that have been read, but I want to say that I am glad to know that some of the teachers and preachers are beginning to appreciate what the doctors have had to contend with and are willing to get in the harness and pull with them and re-

operate in every way, further than that I have nothing to say."

I. T. Townes, of Madisonville, said: "Mr. President, I cannot add anything to what has been said, but I want to compliment those who have rendered such excellent papers and have so well performed their part of the program. This is a very important subject, and should be discussed and studied by the various professions and a plan made by which we can benefit our society and our schools, and I would like to hear someone who can speak get up and tell what we can do to help us out. I just want to compliment again these men and those who come and are interested in this meeting and hope that they will help us by coming out again."

J. L. Watkins, Y. M. C. A. Secretary of Madisonville, spoke as follows: "Mr. President, I am very glad to have been able to hear these excellent papers and addresses; I am here representing the Y. M. C. A., and assure you that I am interested in all four of the branches discussed by the representative professions, and take this opportunity of welcoming you to this building for your future meetings and assure you that the next time you come this room will be more inviting, and will be equipped with better furnishings, etc., and want you people to feel welcome."

President: I desire to thank you very kindly on behalf of the society."

Prof. C. E. Dudley: "I might add a word to what I have already said. Two or three things have interested me very much, along the line of defectiveness in the physical condition of pupils in their school work; I notice that the doctors take a great deal of credit on themselves, then comes the ministry and claim to be the whole show, and somehow I have been teaching so long I have gotten it in to my mind that we teachers are the foundation to the whole thing, and when you take up the matter of public health, you will have to come back to the school."

As a teaching profession, most of us get in so easy that we do not represent very much, but through us there is a great deal to be accomplished. It is surprising to know what a loss there is to the State of Kentucky through defectiveness and how many pupils there are in the schools that are in urgent need of a medical examination. I venture that you get very few calls to make an examination of a child to see if it might be improved physically in order to develop it mentally; the tendency is not to call in the doctor until the child gets down sick. Parents are blinded to the physical and mental welfare of their children.

The figures quoted by the last speaker regarding the defects in the hearing, sight and breathing organs of school children, quoting the statistics, are really startling, yet I can see that these conditions are duplicated in my own school at Earlington. If you will look for theme you will find them. What is the remedy? How are we to help the public along this line? I am glad that this

subject is popular among the medical fraternity and trust we can suggest some plan to aid the public in meeting this most important issue. I believe that the medical fraternity with the help of the teachers can accomplish wonders in conducting to the public health as well as to the public wealth. The teachers are generally ignorant along these lines, we find a few that are informed along these lines, then we find a great many that do not know anything, and it will take the medical fraternity to educate our teaching fraternity up to the correct method of carrying out hygienic principles."

Prof. R. B. Rubins, Superintendent of Madisonville Public Schools: "Mr. President, Ladies and Gentlemen: I regret that business matters did not permit me to hear the various papers and discussions of this question that I am intensely interested in, but think I have been here long enough to grasp the idea that you are all working on, I heard a greater part of Dr. Nichol's address which was most gratifying."

It occurs to me that like every other reform, the matter of education, the matter of training the mind has had its stages of development, just like the matter of public health had its development. Heretofore the matter of public health had been largely an individual matter, every man his own master, and looking out for those things which menaced the health of his immediate family, and not take a general view of improving the conditions, or that anybody else was responsible for the physical condition of anybody else; as all reforms, it has become centrally taught that everybody else is responsible for the condition of everybody else. A few years ago there was no precaution against contagion, a man with a contagious disease was turned loose whenever he wanted to be, and nothing particularly was thought of it; that is not true among men of the medical profession to-day I am glad to say, because they know that will not do, but a few years ago that was more or less the case.

Now as far as the school is concerned, I am like Prof. Dudley, the teaching profession will have to be educated by the medical fraternity along this line. The public also will have to be educated to the great need of sanitary conditions. You will be surprised to know of the difficulty we had in our schools here in introducing the sanitary drinking cups in the school. We have to work diligently to see that it is observed, and although it is a very simple matter.

Now the thing that impresses me most of all is this, how are we going to work together on the proposition, the medical profession, the ministry and the teaching profession, are the ones to start this revolution against unsanitary conditions, and we should get together on it and outline some plan whereby we can make our work count, there is no telling what good we can do. The public must be brought to see this thing in a proper light, the work that the school does in

causing the child to observe the individual drinking cup is crippled by the child going to a public gathering where there is an old filthy tub with a row of dippers hanging on the side; we say at school that you must ventilate and free the room of bad air, then they will go to church and sit for two hours in a stuffy close room where the air is very bad, the preacher will sweat and everybody else will sweat and no one get the benefit out of the sermon that they should and would under more favorable conditions.

I believe that we should have medical inspection in the schools.—I have been talking about it to Dr. Sory, and I can see a possibility in it; I believe if the medical profession are as interested as we are,—and they seem so to-day,—and if they are willing to do as much along these lines as we do without pay, that we will have it in the schools by next fall.

We cannot wait on the reactionaries, we have got to take the reins in our own hands. Let's get busy and do it; I am for it."

E. B. Hardin: "Excuse me for getting back on the floor, but I wish to compliment the other members on their splendid papers, where I am only a member of the dental profession, I want to do all I can to further the education of the public to the needs of sanitation; the dentist profession claims to be an heir of the medical profession and should assist them in bringing about improved conditions in furtherance of public health. I believe we should hold public meetings at the court house and churches and invite everyone; the time is not coming, it has already arrived, this drinking cup proposition is only one item, and the time has arrived when we as a community should arise as a whole and become enthusiasts in the work. So I suggest that we have open meetings and invite the public to participate in the meetings in general."

A. O. Sisk, Earlinton: "Mr. President and Ladies and Gentlemen: I have enjoyed these papers and discussions very much indeed; I wish to say that this was intended to be an open and public meeting and the public was invited to attend this meeting, and we are glad to see a few here, wish there was more.

When this meeting was gotten up by the physicians for the benefit of the public health, it was not at all fostered by the idea of getting jobs in inspecting schools, etc. You will find the physician at all times ready and willing to co-operate in this work. I think every school in the county should have a medical inspector.

Now these teachers can recognize defects in the pupils earlier than anyone else, and the teacher wants to know the nature of these defects and how they are to be remedied, the physician must then come in and help him remedy these conditions; the teacher often recognizes defects before the family or physician; for the physician is never called in until the child is sick.

The object of this meeting was to attempt to

bring about some co-operation between these four great professions; to discuss ways and means as to what is the best thing to do towards preserving the child's life and health and towards preventing the spread of contagious disease; and to arouse the physicians, teachers and preachers to their duty along this line, for I believe we are asleep, as evidenced by the absence of all four professions here this morning, and we must get busy and do something.

E. A. Davis: "I wish to say in regard to what Prof. Rubins has said, that as far as I am concerned individually, and believe each member of the society would be willing to give his services free in this work, if the teacher will prevail on the legislative body to provide some means to part into force the things we recommend."

I. J. Townes: "Mr. President, do you know whether or not a committee has been appointed, consisting of a teacher, preacher and doctor, or two of each, to see into this matter?"

President: There has not.

I. J. Townes: "How would it do to appoint somebody to see into this, so as to have things ready in a definite shape to look after this matter?"

President: "As I take it the doctor proposes that we select a committee composed of a member of the four professions represented here to-day, to outline some program of public health, that sounds like a good suggestion to me, probably some one can suggest a plan that we can get together on to enforce medical inspection in the schools and improve on general conditions in preserving the public health. I will be glad to do anything I can along this line."

I. J. Townes: "Dr. Sory is our city physician and we would like to hear a suggestion from him,—would like to suggest that he be appointed physician in charge of this town,—and this being the center of the county, it will be the headquarters of the attack we are going to make. I will speak for the medical profession then, and suggest we use Dr. Sory."

President: "Let us have some kind of motion along that line."

A. O. Sisk: "Mr. President, I believe this meeting is merely an advisory meeting, more for the purpose of devising ways and means and discussing them in order to get the professions together and believe the present procedure is out of order."

I. J. Townes: "If that is out of order, how are we going to get started? If we are going to have a meeting this time and quit, nothing will be accomplished. I believe there should be something done, what do you propose?"

A. O. Sisk: "You misunderstood me Doctor, I say name a committee to do this, is that your idea in suggesting Dr. Sory?"

I. J. Townes: "My idea is to have four on the committee, four of the professions represented here, and have the committee tell us what to do."

J. D. Sory, of Madisonville, said: "Mr. President, I have enjoyed the meeting very much and really did not want to say anything, but just listen, but in the way of suggesting, I would like to say this: I think this meeting will accomplish a great deal of good, because it will get the teachers, preachers, dentists and physicians to working in harmony. I suggest that we have another meeting later on in the season, it is no question that our non-attendance here to-day is on account of the unusually bad roads in the county. Have another meeting later on in the season and have the four professions take part in that meeting. Would suggest that we adopt Dr. Townes' suggestion and have a representative committee appointed to arrange for a program for the next meeting."

I certainly appreciate the position of Prof. Rubins, as I have noticed the method he has been using in his schools in the city, and when it is necessary to have them inspected he has done so, and as a result we have had very little contagion in the schools this winter. I think we should appoint a committee to look after this next meeting."

President: "Dr. put that in a form of a motion."

J. D. Sory: "I make a motion that you appoint a committee composed of one of each profession here to-day, one minister, one doctor, one teacher and one dentist, as a Committee of Four, to arrange a program, and fix a time and place for the next meeting."

E. A. Davis: "I second that motion."

President: "Moved and seconded, all in favor of that motion let it be known by saying 'aye.'"

Chorus: "Aye."

President: "Opposed 'No.' The ayes have it, and I will appoint a committee composed of Prof. Rubins, Dr. A. F. Finley, Rev. W. J. Mahoney and Dr. E. B. Hardin, to arrange a program, time and place for next meeting. Any further business to come before the house?"

A. F. Finley, of Isley: "Mr. President, if I am not out of order, I would like to say a word or so. I have enjoyed this discussion very much. I got in late and did not hear all the speeches; I heard part of Dr. Nichols' and certainly enjoyed it, I think this meeting is stimulated, and should be called a public health revival, just a revival with us anyway. Am glad indeed to see the representatives of other professions here. If they would do as much along this line as we do, we could accomplish quite a great deal; we have done without pay more than any other profession in furthering general sanitary conditions and preserving the public health. As individuals we can do little, but as an organization we can march on."

L. E. Nichols: "I desire to thank the gentlemen who have complimented me and desire to praise the papers of the other members on the program. We have started a large work here to-day, and

we have got to work and work hard to accomplish anything; of course we cannot accomplish it all in the present generation either, but can make conditions look brighter for our children and our children's children."

I believe this work can be better accomplished by public meetings like this one started this morning; we can better tell just how many and when to have them as we go further into the work and have bigger crowds and more interest. I again wish to compliment these gentlemen on their excellent papers."

J. D. Sory: "I notice behind me another profession which we cannot afford to pass over, and that is the trained nurse, the guardian angel of the sick room, and I do not know of any profession that can be more helpful to the other four than the trained nurse. For we are only in the sick room for 15 or 20 minutes at a time to leave instructions for the nurse to carry out, for she is there all the time, and they can accomplish a great work, so I would like to suggest that the name of Miss Biatt be placed on that committee as a representative of her profession."

Miss Biatt: "Mr. President, I appreciate the honor very much, but will have to decline, as I am preparing to leave this county soon and go to my home in Washington."

Rev. W. J. Mahoney: "I want to say a word or two along the line of Prof. Rubins' remarks about these sanitary conditions. The methods he is employing in improving these conditions has come under by observation of my own children, regarding individual drinking cups and ventilation. It is the truth that we are confronted with unsanitary conditions in our churches, Y. M. C. A.'s, and all public places, with the public drinking cup. I want to say right here that the physician can do quite a bit of missionary work in the church which I do not dare bring out too strong, and that is the common drinking cup being used in the service of the Lord's Supper, they shrink when you tell them about individual drinking cups and say you are departing from the common cup as emblematical of the cup used by Christ, not taking into consideration that we have departed from the common cup when we use two cups, and we might as well have two hundred as two, there is great danger of infection from the cup passing from mouth to mouth, all sorts of danger from nasal, tongue, throat and bronchial infection, a great many people assigning a reason for not wanting the individual cups, that they rely on providential protection, and I hope you physicians will suggest some relief for this state of affairs. I want to assure you that I appreciate any relationship with each one and everyone of you and assure you that anything that lays in my power I will gladly do to help the prevailing conditions and clean up the community."

President: "I desire to thank each one of you for your part in the program and all who have so promptly responded in these discussions and as

sure you of our appreciation of your splendid efforts. Now if there is nothing further to come before the meeting, we will stand adjourned."

A. O. SISK, Secretary.

Lincoln—The Lincoln County Medical Society met in Dr. Peyton's office, April the 16th, with the following members present: Drs. O'Bannon, Childers, Jones, Brown, Peyton, Carpenter, Harmon and Phillips.

E. J. Brown read a very interesting paper and presented some clinical specimens that made this an interesting meeting.

Our next meeting will be held at Hustonville, the third Tuesday in June. Drs. Singleton, Jones and Childers will read papers and we look forward to this meeting with a great deal of pleasure.

M. M. PHILLIPS, Secretary.

Ohio—The Ohio County Medical Society met in S. D. Taylor's office, Beaver Dam, Thursday afternoon, April 4th, at 1:30 p. m. Members present: J. O. McKenney, J. S. Smith, F. B. DeWitt, E. W. Ford, J. W. Taylor, S. D. Taylor and Oscar Allen.

The meeting was called to order by Dr. J. W. Taylor, the president, minutes of the last meeting were read and approved. Applications of F. B. DeWitt, Willard Lake and E. B. Pendleton were reported favorably by the Board of Censors and they were elected to membership. J. A. Duff's application was presented and referred to the Board of Censors.

J. W. Taylor presented a case of "Pterygium."

S. D. Taylor reported a case of "Imperforate Hymen," diagnosed only after a most thorough and painstaking examination during the menstrual flow. An examination in the interim having led to a diagnosis of a possible atresia of the vagina and was so reported at our last meeting. This case was one of extreme interest on account of its rather infrequent occurrence, its difficult diagnosis and the predicament the young lady was in by being engaged to be married in the near future. On account of this latter fact and the extreme smallness of her pelvis it was deemed best to render her sterile, which was done.

J. O. McKenney presented a case in which he had given the tuberculin test showing a mild reaction.

E. W. Ford reported a case of stragulated hernia in which was found a considerable amount of what later proved to be popcorn.

S. D. Taylor read a most interesting paper on "Serum and Vaccine Treatment," which was discussed by J. S. Smith, J. D. Taylor and J. O. McKenney.

J. O. McKenney presented a very interesting paper on the "Early Diagnosis of Tuberculosis," in which he emphasized the value of the tuberculin test and the importance of a more thorough

study of this disease by the physician. Discussion by DeWitt, E. W. Ford and J. S. Smith.

A motion was made and seconded that we meet again at Beaver Dam, Thursday afternoon, May 2nd, at 1:30 o'clock.

E. W. Ford, who intends to take the three weeks course, offered by the Chicago Polyclinic during April, very kindly consented to give us a paper at our next meeting on "Some Things Learned in Chicago."

Adjourned to meet May 2, at 1:30 p. m.

OSCAR ALLEN, Secretary.

Meade—The Meade County Medical Society held its regular monthly meeting at Brandenburg, March 28th, 1912, at 9 a. m.

A. A. Baxter read a very interesting and instructive paper on "Pneumonia."

T. H. Hardesty read a paper on "Influenza," which was sent to the Journal for publication.

All the essays were thoroughly discussed and the meeting was highly successful.

No further business the society adjourned.

E. C. HARTMAN, Secretary.

Muldraugh Hill—The Muldraugh Hill Medical Society met in the City Hall in Elizabethtown at 10:30 a. m., with Dr. Ed Smith, President, in the chair in the absence of the Secretary, Gaylord C. Hall, on motion Hugh D. Rodman was elected Secretary pro tem. The presentation of clinical cases and specimens was passed over for the present. On motion of Dr. McChord the program was changed so as to permit Dr. C. B. Spalding to read his paper first instead of last as he, Spalding, wished to return to Louisville on the next train.

C. B. Spalding read an excellent paper on the "Urethra," and demonstrated it by some pathological specimens, which made it all the more interesting. I am sorry that I cannot present the paper with this report, but he has promised that we shall have it. This paper was discussed at length by Drs. McChord and Willmoth and in closing Dr. Spalding brought out a new point in reference to gonorrhea, which he said was regarded by many people, and some doctors as a trivial disease. This he said is a great error; gonorrhea was at all times a serious disease and demanded our greatest skill and careful attention, and that we should be sure our patient was entirely well before we discharged him.

C. T. Riggs, of Upton, reported a case of splenomegaly, which had been treated by regulars, osteopaths and finally by Charlie Whitteason and was relieved by death.

W. E. Rodman, of Hodgenville, was down for a report of case of "Placenta Previa." In his absence Dr. Ed Smith, who had seen the case in consultation, was, on motion, invited to report the case, which was a case of placenta previa centralis, and had, before the arrival, lost a large quantity of blood and was very weak and anemic, was supposed to be five months pregnant. A

speedy delivery was made of a very small living child, which was wrapped in cotton and kept so for weeks, and was fed regularly and lived and is now five years old and of an average size. The mother made a slow but perfect recovery and is also still living. Dr. Smith did not believe that this woman was more than five months pregnant and at first had no hope of the child living, but after attending to the mother, they found the baby still living and gave it immediate attention with the result reported.

Hon. James Montgomery, who is an honorary member, brought permission to report a case along this line. The child which was premature after a slow and tedious delivery weighed only 1 1-2 pounds, but lived to be grown.

A. D. Willmoth reported a case of "Tubercular Pleurisy," which report is herewith submitted, and was discussed by several members.

C. T. Riggs read a good essay on "Lobar Pneumonia," which is herewith attached, which was discussed by Hubbs, Thornton, Rodman, And and Ravitch, and Dr. Riggs in closing.

On motion of Dr. Willmoth, Drs. Adams, McChord, Willis and And were appointed a committee to draft a suitable memorial on the life and character of Dr. D. C. Bowen, deceased, and report at the next meeting of this society.

G. G. Thornton spoke feelingly on the life and character of Dr. Bowen, both as a man and a physician. On motion of Dr. Riggs the society adjourned for five minutes out of respect for Dr. Bowen.

M. L. Ravitch read an excellent paper on "Toilet Infection," which I am sorry that I cannot furnish you, but he has promised it to us.

M. W. Steele read a most interesting and instructive paper on "Pellagra," which will accompany this report, and which was freely discussed by Ravitch, Rodman, Willmoth, Riggs and McChord and Steele in closing.

E. L. Gowdy read a most practical paper on "The Causes and Treatment of Convulsions in Infancy and Childhood," which was discussed by Rodman, Thornton and Riggs, and which will accompany this report.

Thus an interesting program was closed, all of which was rendered except Dr. Gaddy and Dr. Rodman, of Hodgenville, whose absence was greatly regretted.

After an informal talk adjourned to meet the second Thursday in August.

HUGH D. RODMAN, Secretary.

Taylor—The Taylor County Medical Society met in the office of the Secretary. Present: Drs. Gowdy, Buchanan, O. M. Kelsay, S. H. Kelsay, Black, Reesor, Elrol and Atkinson.

Minutes of meeting of December 7, 1911, read and approved. At that meeting, which was the date for the election of officers, so many of the members were called away during the meeting that the election of officers was deferred till the

first meeting of this year. The Taylor County Society hibernates during the months of January, February and March of each year so this was the first meeting of the year.

On motion of Dr. Reesor, seconded by Dr. Black that the old officers be re-elected for the year 1912. Motion prevailed. The officers now stand: President, E. L. Gowdy, Vice President, Dr. Murphy; Secretary Treasurer J. L. Atkinson; Delegate, Dr. Reesor.

E. L. Gowdy made further report on case of "Pellagra," that the symptoms all subsided in the late fall and now patient is apparently in usual health. Also reported that the thought patient is taking an advertised treatment at \$5.00 per bottle.

E. L. Gowdy read a paper on "Causes and Treatment of Convulsions in Infancy and Childhood." This was a splendid paper and was prepared for the meeting of the Muldraugh Hill Medical Society the next week. The discussion of the paper was highly commendatory. In closing he emphasized the contraindication of emetics. Also the necessity for care in administering depressing drugs, such as chloral, in convulsions ushering in acute diseases.

J. L. ATKINSON, Secretary.

Wolfe—The Wolfe County Medical Society met in the office of B. D. Cox on April 5th, 1912, and elected the following officers:

W. T. Center, President; W. H. Hobbs, Vice President; B. D. Cox, Secretary and Treasurer.

I. A. Shirley was present and gave us a splendid talk on organization and "Hookworm" and entertained a large crowd at the court house at night.

A committee was appointed and a program was arranged for our May meeting.

The meeting then adjourned.

B. D. COX, Secretary.

Spontaneous Rupture of the Spleen in Typhoid.—Melchoir has found fifty-six articles on this subject but only thirteen authentic cases on record. Signs of intraperitoneal hemorrhage should suggest spontaneous rupture, especially if the spleen is much enlarged, and it should be exposed at once and removed. Getting up too early is dangerous on this account if the spleen is much enlarged, especially if it enlarged very fast.

Diagnosis of Air Above Pleuritic Effusion.—Kraus calls attention to the instructive findings with roentgenoscopy when the patient is examined erect and then with the trunk inclined at an angle of about forty-five degrees. As the trunk is thus bent over, a clear space is seen above the level of the fluid, while in the erect position there is nothing to show the presence of the spontaneous pneumothorax. It springs into view on the screen as the level of the fluid shifts.

BOOK REVIEWS

Illustrated Catalogue.—W. B. Saunders Company have just issued a new (16th) edition of their Illustrated Catalogue which describes some forty new books and new editions published by them since the issuance of the former edition.

The books listed in this catalogue cover every subject of interest to the medical man. The descriptions and illustrations are such as to enable the reader to select easily just the book he wishes on any branch. It is really an index to correct medical literature—an index by which the practitioner, the surgeon, and the specialist can acquaint himself with what is new in the literature of his subject.

This edition also contains an illustration and description of Saunders' new building, now being erected on Washington Square, Philadelphia's new publishing center.

Any physician wishing a copy of this handsome catalogue can obtain one free by addressing W. B. Saunders Company, 925 Walnut Street, Philadelphia.

"Case Histories in Medicine" by Dr. Richard C. Cabot. Published by W. M. Leonard, Boston, Price \$3.00.

An exceedingly interesting presentation of case histories under the headings of Infectious Diseases, Diseases of the Gastro-Intestinal and Biliary Tract, Diseases of the Urinary Tract, Diseases of the Circulation, the Respiratory System, etc. The introduction of a series of pertinent questions and answers with many of the cases carries one into the hospital ward and is equivalent to a clinical lecture. This, under so capable an instructor as Dr. Cabot, makes the collection of cases of great value to the thinking physician and constitutes a post-graduate course at home.

The Surgical Clinics of John B. Murphy. M. D., at Mercy Hospital, Chicago, Volume I. Number 1. Octavo of 133 pages, illustrated. Philadelphia and London: W. B. Saunders Company, Publishers, 1912. Published Bi-Monthly. Price per year: Paper \$8.00 Cloth, \$12.00.

This volume represents a series of verbatim reports of Dr. Murphy's talks edited but slightly, more to avoid repetition than to enlarge the scope of the topic discussed.

The history of each case is given, then follows the comments of Dr. Murphy covering the technique of the operation, the diagnosis, the methods of arriving at the same, and all the points involved in the living pathology of the particular type of case.

The subjects are varied; tumors in various locations, varicoele, salvarsan, fracture of the patella, blood clot in bladder and tuberculous of the kidney, Charcot's disease of the hip joint, nerve anastomosis, duodenal ulcer, hemangioma of the

leg, fistula in ano, and others, are placed before us, diagnosed, treated and discussed generally.

IN MEMORIAM, DR. JOHN MASON KASH.

Failing to see the report of the death of one of our county members, by our secretary, I wish to report the death of Dr. John Mason Kash, the President of the Breathitt County Medical Society, and one of the oldest active practitioners in Eastern Kentucky. He graduated at the Kentucky School of Medicine in 1888, and has been in active practice for fifty years, doing an extensive practice and up to within one month of his death, which occurred while he was visiting his daughter, January 30th. He was a Christian gentleman and an exemplary citizen, always holding up the bright side of life and was quite a factor for good in his community, raised a large and highly respected family, all of whom survive him, except his son, Dr. Silas Kash. Very few men live to do fifty years of very active practice and do the very hard work which a mountain doctor has to do. He was seventy-five years old and had been afflicted with Bright's disease several years but was never but what he could attend to his practice until three or four weeks of his death.

O. H. SWANGO.

Disease of the Optic Nerve and Retina Connected with Pregnancy.

—Dolganoff insists that when the pregnancy alone is responsible for the ocular disturbances, expectant treatment should be the rule, and he reports a case in which a young woman had suddenly become almost totally blind in the third and fourth months of her first pregnancy. Except for recurring headache she seemed otherwise healthy. She was kept in bed and given dry sweats and hot baths every two or three days, with iodine, and improvement gradually followed. The assumption seems plausible that some toxic substances were produced during the first months of the pregnancy and that they had some special affinity for the optic nerve. Later the organism adapted itself to the condition, possibly aided in this by the treatment adopted, and in the course of the next two or three months all the functioning and exerting apparatus came into good working order and all disturbances subsided. The case teaches that when an internist, gynecologist, syphilologist and neurologist—all these specialists were consulted in this case—can find nothing to explain the optic neuritis or retinitis, the trouble can be ascribed to the pregnancy alone and probably, can be safely left to time.

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ORIGINAL ARTICLES

TONSILLITIS.

By C. L. NICHOLS, Louisville.

While acute inflammations of the gland in general possess characteristics of greater or less similarity the one to the other, the symptoms being quite uniform, it is, nevertheless, important to understand what symptoms are common to all cases, and what indications they offer for treatment, and also to appreciate the special conditions and needs which may exist in the given case.

Tonsillitis may be divided into 1st, simple or superficial, acute, sub-acute or chronic, 2nd, Follicular, 3rd, Parenchymatous, 4th, Tonsillitis with abscess in the substance of the gland (quinsy), 5th, Peri or retrotonsillar abscess.

Follicular tonsillitis may be divided into simple or catarrhal, and the diphtheritic forms. The diphtheritic variety should not properly be classified with follicular tonsillitis at all, since the disease must in reality be either distinctly diphtheria or distinctly non-diphtheritic; yet, there are so many cases which to all appearances, occupy an intermediate position between the two, that diagnosis becomes difficult, and the disease is worthy of consideration.

ETIOLOGY.

The causes of tonsillitis may be divided into predisposing and exciting. Among the predisposing causes we find youth, most cases occurring between the ages of 15 and 25 years. It is rare in early childhood, and after fifty, although cases have been recorded occurring in children just a few months old.

In many cases the tendency to tonsillar inflammation seems to be distinctly hereditary. In such cases the inheritance might be due to the existence in parent and child of a common diathesis—the rheumatic, for instance. Climate may also play an important part. Hypertrophy of the tonsils greatly increases the liability of the person to attacks of tonsillitis. Often, this seems to be due to the retention in the large lacunae of excretory matter which acts as an irritant, and so excites the adjacent tissues that a tonsillitis supervenes. The tonsil seems in many cases, to be a vulnerable spot, which is apt to sympathize with various irregularities of the body, and to be subject to inflammation as the result of indigestion, menstrual irregularities, or uterine influence, the strumous diathesis, and most important of all, rheumatism and gout. Ill health is a predisposing cause, also mental depression and unusual anxiety or care.

The exciting causes are usually ascribed to be exposure to wet and cold; bad hygienic surroundings also favor the development of tonsillitis. Most cases occur in the spring, next most frequently in the winter, less in the fall, and least prevalent in the summer. The disease is uncommon in the tropical and in the very cold latitudes. Tonsillitis may be present as a complication in scarlet fever, measles, and smallpox. It may also be caused by the inhalation of irritating vapors, or the swallowing of caustic substances.

SYMPTOMS.

While the actual pathological conditions in tonsillitis may vary as between the several forms of the disease, there is clinically no well marked line of demarkation between the va-

ries described, and as regards treatment, it is sufficient to make two divisions; first, superficial or follicular tonsillitis; 2nd, deep or parenchymatous.

The symptoms which usher in an attack of tonsillitis are in general much the same for all varieties of the disease. In many cases of true suppurative tonsillitis, however, there is from the first, a sensation of deep-seated pain and the throbbing which, to the experienced sufferer, marks the attack as one of quinsy. The general symptoms are malaise, chilliness and febrile temperature, more or less pronounced, together with a sense of stiffness and dryness of the throat, and more or less pain in deglutition. As the soreness of the throat becomes worse, the temperature tends to rise until it may reach as high as 106 degrees. It is apt to rise to the highest point in the young, and in the follicular form of the disease may attain a maximum in a comparatively short time. Generally the constitutional symptoms are more marked in the suppurative form. In patients of a debilitated condition, the fever may assume almost a typhoid character while the tonsils become dotted with a grayish exudation, or are actually covered with sloughing ulcerations. In some instances the disease seems to be epidemic attacking several persons in the same household. The inflammatory process often extends to the mucous membrane lining the Eustachian tube causing a temporary loss of hearing and sometimes an inflammation of the middle ear. Dysphagia in a severe case of quinsy is often intense, the patient being unable to swallow even his own saliva and absolutely refusing to take food because of the inordinate pain caused by every attempt at deglutition and because from the tumefied state of the parts the stiffening of the muscles and the general local disability, the act of swallowing is a physical impossibility. The tongue is heavily coated and the breath very offensive and sordes are often on the teeth.

On inspection we see in acute follicular tonsillitis, the crypts of the tonsils are filled with a grayish material each one looks like a little pin head—often one tonsil is involved and then the other. The tonsils are swollen and engorged with blood and often block up the entire throat.

In parenchymatous tonsillitis we most often find that an abscess is forming and that one tonsil is inflamed and bulging. Sometimes the parenchyma of the tonsils inflame without abscessing and we have just enlarged tonsils without the crypts being filled up as in the follicular variety.

Paralysis of the pharynx and palate with or without anesthesia, occurs often after an attack of tonsillitis. Constipation almost invariably precedes and accompanies tonsillitis.

The urine is highly colored, loaded with urates, contains an excess of urea, and is deficient in chlorides. Albumin is sometimes found, rarely we find a rash in cases of tonsillitis.

PATHOLOGY.

Simple tonsillitis can hardly prove fatal unless complicated by some intercurrent affection so that few opportunities have been offered to study the effect of simple inflammation upon the gland. On inspection one or both tonsils will be seen to project from its bed as a rounded, deep red body, which may extend beyond the median line, when they may entirely occlude the isthmus of the fauces; the half arches and posterior border of the soft palate are reddened and swollen. The surface of the tonsils is often covered with small, yellowish points which closely resemble patches of false membrane, but careful inspection will show that they are beneath the mucous membrane, being only the distended follicles of the gland. The mucous membrane of the fauces and pharynx is also red and swollen.

DIFFERENTIAL DIAGNOSIS.

Of all cases that a general practitioner sees at this season of the year, the diagnosis at times of tonsillitis, seems to the writer to be the most difficult. First, tonsillitis may be mistaken for diphtheria. The points of difference that I think the most of, are first, whether or not there is an epidemic of diphtheria. If there is an epidemic it is best, I believe, to take no chances but give antitoxin freely.

2nd. Whether or not the patient has enlarged tonsils and is subject to attacks of tonsillitis. Some cases of tonsillitis have no temperature and a membrane that looks exactly like a diphtheritic membrane. These cases that I have observed have occurred mostly in people of 25 to 50 years of age, and as no other cases developed in the family, I took for granted that they were not diphtheritic. It would have been better if a microscopic examination had been made and in the future I intend to have several of these cases examined for the Klebs-Loeffler bacillus.

3rd. The temperature and pulse. In tonsillitis we have a temperature generally over 102 degrees F., and a pulse that is full, strong and rapid; while in diphtheria the temperature is usually below 102 degrees F., and the pulse is rapid, weak, and often irregular.

4th. General symptoms. In tonsillitis we have as a rule headache, headache, and pains in various parts of the body, although the patient feels strong, while in diphtheria we have a patient who is weak, but has not the headache, that we find in the tonsil case.

5th. Character of the Membrane. In the tonsil cases the rule is to have several punctate

spots that coalesce in a few hours, generally on one tonsil, but often on both. This membrane is strictly confined to the tonsils and is easily wiped off leaving a surface that does not bleed. In diphtheria the membrane is tough, does not confine itself to the tonsil and when wiped off leaves a raw bleeding surface. Tonsillitis may also be mistaken for scarlet fever, but the projective vomiting and the eruption will make the diagnosis clear. Syphilis is differentiated from tonsillitis by the symmetry of its manifestations and by the presence of ulceration the latter being unusual in tonsillitis.

Cancer, by the history, duration and it being unilateral.

DURATION.

The duration of an attack of simple parenchymatous tonsillitis is generally from three days to a week. If follicular tonsillitis it may run its course in from two to five days as a rule. In quinsy, the duration is uncertain, and there is a tendency to linger, and in many cases to relapse, sometimes lasting for several weeks.

PROGNOSIS.

The prognosis in the milder forms of tonsillitis is almost invariably good, and the progress toward recovery often very rapid. This is not always invariably the case. Sometimes follicular tonsillitis is followed by marked debility, or an attack of suppurative tonsillitis may succeed in persons of debilitated constitution, by a tedious convalescence. One attack seems to predispose to others, and with some patients every year brings one or more attacks.

Death from quinsy may occur in one of three ways: By sudden rupture of a large tonsillar abscess during sleep, resulting in suffocation; by the violence of the inflammation of the neighboring parts, which, extending to the larynx, produces oedema of the glottis; and by erosion of the walls of one of the large arteries adjacent to the tonsil, followed by fatal hemorrhage.

TREATMENT.

The first indication is for a prompt and efficient purgative and none is better than calomel and soda, followed in four or six hours by a saline. If the case is seen early the tincture of ammoniated guaiac may be prescribed in dram doses every two or three hours in the hope of aborting the attack. This drug has been highly recommended. Personally I like the salicylates in some form as they relieve the headache and the aches in general. I usually combine them with phenacetin and push these until the general symptoms are relieved or the ringing in the ears is produced. Locally any good cleansing gargle containing

some hydrogen-peroxide. Later if the tonsils are free from membrane but relaxed, an astringent gargle is indicated.

In parenchymatous (quinsy) tonsillitis if seen within the first twelve hours, cold can be applied in the form of an ice bag or ice cloths, if there is not improvement within the next twelve hours heat had better be used in the form of poultices to hasten the formation of pus. Most often the abscess will rupture after several hours of hot poulticing, but if it does not, and the pus can be located it should be evacuated by means of a sharp knife which has been wrapped with adhesive to within 1-4 of an inch of its point. This can be used to stab the tonsil in the places where the pus is suspected and even if you do not hit the pus you will relieve the tension and reduce the resistance so that the pus can be evacuated easier. After attacks of tonsillitis, and quinsy if the patient is debilitated, tonics are indicated.

In patients who are subject to attacks of tonsillitis that cannot be attributed to a diathesis, a tonsillectomy should be recommended. Often a physician is in doubt about his diagnosis and when he is in doubt and cannot have an examination made for the Klebs-Loeffler bacillus, I believe it is better to give antitoxin. Tonsillitis, I believe, is more contagious than we think, and it is well to isolate the patient, and especially if you cannot be positive of your diagnosis.

DISCUSSION.

Adolph O. Pfingst: The general practitioners probably know more about follicular tonsillitis than those who are doing special work, because they see more of it, hence I have been very much interested in what the essayist had to say.

I have been especially interested, in the past year or two, in the etiology of this condition. It seems to me that as we increase in knowledge of bacterial infections and specific remedies for certain infections, we will probably evolve some specific treatment of the various forms of tonsillitis. I think it is a conceded fact that ever since the various forms of staphylococci and streptococci were first recognized, and their relation to pus formation understood they are looked upon as the most frequently offending organisms in tonsillitis. In later years, as we have been recognizing more and more the importance of the colon bacillus as a pus producer, we are coming to believe that this also is a factor in the causation of tonsillitis. I do not think we should differentiate between tonsillar diphtheria and all other forms of tonsillitis as a group, for they all cause tonsil inflammation each case differing with the nature of the infecting organism.

I believe that eventually we will classify the various forms of angina according to the nature of its infecting element. In my judgment it is

in the streptococcal infection that we most frequently have complications, such as peritonsillar abscess or infected glands.

Personally I look upon the peritonsillar infections as secondary to an infection of the tonsillar crypts.

A few days ago I was called to see a graduate nurse, who was just getting over an attack of so-called follicular tonsillitis. I had seen and treated her only once during this attack. I found her suffering not only with difficulty in deglutition, but also of phonation and respiration; she was beginning to get hoarse and could hardly breathe. Within twelve hours after the beginning of these symptoms, she had developed a very large infected gland on one side, and when I saw her twelve hours later she had become cyanosed, and for a while it appeared that it would be necessary to do a tracheotomy. Dr. Allert had seen her in my absence, and later in the morning we both saw her again, at which time she had considerable oedema of the larynx most marked on the side of the enlarged gland. Unfortunately, no culture was made to determine the character of the infecting bacillus. Not knowing the nature of the infecting agent we gave her mixed staphylococcal vaccine, but it seemed to have little or no effect on the progress of the inflammation.

As to treatment, just one word which may be of interest to the general practitioners. I believe most of you use a compressed air apparatus of some kind. If these cases are seen early, I believe we can accomplish a great deal of good by cleansing the crypts of the tonsils. If we get them before the bacterial deposits have become so adherent that they cannot be removed, I believe that, by using the compressed air apparatus, cleansing the crypts, then get into them with a saturated solution of nitrate of silver, and at the same time begin the internal administration of aspirin, we can very frequently abort the disease.

Gaylord C. Hall: I have enjoyed the essay very much indeed. I have always had a peculiarly tender feeling for this subject, because I suffered with it for years until I had my tonsils removed.

I noticed that the essayist made a distinction between abscess within the gland and abscess around the gland, speaking of the former as "quinsy". My idea of quinsy is that it is rather of a peritonsillar type; that abscess within the gland is a very rare condition, which sometimes eventuates in complete necrosis of the tonsil. In a recent number of the *Journal of the A. M. A.*, I noticed an account of an epidemic of very severe tonsillitis, of the streptococcal type, growing out of an infection of the milk supply. I think this illustrates the point made by Dr. Pfingst, that all of these tonsillar infections differ only in severity, and where we have a virulent streptococcal infection of the tonsil, we have a very severe infection indeed. These infections may not only spread,

by means of continuity of tissue into the larynx, causing oedema there, but may also get into the general circulation, causing infectious endocarditis. Furthermore, it is not uncommon for severe cases of tonsillitis to develop a mild type of nephritis, usually clearing up soon. I have seen a number of cases with albumin in the urine. I have seen other cases with the well-known combination of rheumatism and tonsillitis. Only recently a child was brought to me for operation, but as she was not in good general condition at the time, operation was deferred. She developed tonsillitis from which she recovered in the usual time, three or four days after, but before anything could be done in the way of preparing her for operation, she was seized with acute articular rheumatism. I saw her again, six or eight weeks after she had recovered from the attack of rheumatism, and at that time she had a very loud mitral murmur. This case illustrates, I believe that there is a direct connection between infectious tonsillitis, infectious arthritis and the development of endocarditis.

The essayist spoke of tonsillitis occurring in elderly persons unaccompanied by fever. I would like to ask him if this condition is accompanied by a membrane, with an exudate? I would suggest the possibility of Vincent's angina, a rather unusual type of tonsillar infection, which very often spreads, eating out the entire tonsillar tissue. It may also involve the pillars of the fauces. This condition may be controlled by applications of iodine and the use of iodine internally.

While the doctor confines his remarks almost entirely to the acute types of infection, I believe that the most interesting field of study is offered by the chronic forms. It has been shown that from five to ten per cent. of these cases are tubercular. However, it is not possible to diagnose these cases clinically, as there are no classical signs in the throat. There is no doubt that these chronic cases of tonsillar infection are responsible for a great many obscure conditions. I have had five cases, three of which were diagnosed tuberculous where operation revealed a chronic abscess formation behind the tonsils. After operation these patients rapidly gained strength and the manifestations of tuberculous vanished. I think that, without doubt, many cases of recurrent arthritis in adults are due to absorption of infectious material within these glands.

In regard to treatment of the acute cases, I can endorse everything that Dr. Pfingst has said as to getting into the crypts. As to application to the membrane found either in the follicles or the diphtheritic form of tonsillitis, I prefer Loeffler's solution. You will find that, in children, it burns a little too much, but this can be overcome by diluting it with tr. benzoin comp., and it is far superior to nitrate of silver. After the infection has almost subsided, and you want to get

the vasomotor effect, then nitrate of silver solution is the very best thing to use on it.

W. T. Bruner: The essayist has covered the ground so thoroughly that he has left but little to be said. It seems that the tendency to-day is to diagnose all cases of follicular tonsillitis as diphtheritic, but I do not believe we are justified in doing so. Many of these cases can be treated successfully, with recovery in three or four days, without danger of infecting other children if the patient is isolated and kept away from school. That is where the trouble comes in; we should be better diagnosticians and able to differentiate between the various forms of tonsillitis. While, in the presence of an epidemic of diphtheria, it may be wise to classify all these cases under that head, still I do not believe that sporadic cases of follicular tonsillitis should all be called diphtheritic.

As to treatment, in acute tonsillar troubles, a two per cent. solution of guaiacol has proven more satisfactory than any other local application in my hands. With it I have very frequently succeeded in aborting these cases in a couple of days. Nitrate of silver is an old and good remedy, but it is not used in strong enough solution. I believe we should use a drachm to the ounce, and put it down into the crypts of the tonsils, which can be done with cotton on a cotton applicator. In cases where the patient has had repeated attacks of tonsillitis, of course the indication is to remove the tonsils after the patient has recovered from the acute inflammation. In most of these cases we should given anti-rheumatic treatment, because many of them have rheumatic manifestations.

F. Lee Cessna: I have recently had a little trouble along this line, and perhaps I might get some information. About six weeks ago I was called to attend a family of five persons, all suffering with what I diagnosed as tonsillitis. I gave them the usual treatment and they soon recovered with the exception of the youngest member of the family, a child of two years. This little fellow had considerable trouble. A membrane formed in the throat, he developed hoarseness, and after about ten days, ear trouble developed, both ears discharging pretty freely. It was a question in my mind whether this was a follicular tonsillitis, or whether it was diphtheritic. The child has since recovered. I did not use antitoxin.

Harry J. Phillips: I have enjoyed the paper very much, but I do not know that I can add anything to it. We general practitioners see a great deal of tonsillitis, especially at this time of the year, and the paper is, therefore, a very timely one.

John Karagiozian: It may be interesting to you to know what we do with these cases in my country. We do not use this drug and that drug, as you do, but we have some old women there who put their fingers on each side and press hard, and

if it is ripe it bursts, and that is an end of it. All of my family had this trouble, and whenever we had it we were sick a long time. Since coming to this country one of my children had trouble with his tonsils, and I took him to one specialist and he cut off a part of it, but he had it again and I took him to another specialist and he cut off some more, but still he had trouble, and I tried and tried and at last succeeded in getting rid of it. The last time I had tonsillitis in Syria, a physician there took his knife, and without sterilizing it or using any technic he just gave a punch and that was the end of it. Since then I have not had any trouble at all.

Wm. A. Keller: This paper is most excellently written and the essayist has covered the ground thoroughly. There are one or two little points that I wish to take notice of.

The essayist stated, I believe, that the ages in which tonsillitis is most prevalent are from 15 to 25 years. I think we find just as many cases under and over these ages.

Another point made by the essayist was in regard to quinsy. I think one of the most prominent symptoms of quinsy that we have is oedema of the uvula, which I did not hear the doctor mention. I do not remember of seeing a case of quinsy that did not have oedema of the uvula.

In regard to differential diagnosis, a very important point is the eruption. We frequently find in tonsillitis an eruption that on the first day simulates very much the eruption of scarlet fever. The difference is that in scarlet fever the eruption is a red rash, while in tonsillitis it presents a dotted appearance. I have noticed that in these cases the trouble is usually due to some error in diet, giving rise to an auto-intoxication, or, in those of a rheumatic diathesis, from exposure to cold.

As to aborting these attacks, I have noticed that very frequently, especially in children, they begin with high fever, aching all over, etc., and they do not complain of much pain in the throat during the first twenty-four hours. Calomel followed by a saline purge, salicylates and phenacetin will get rid of a good deal of this aching, and the next day the child will have a very sore throat. I doubt very much, and always have, whether we are able to abort an attack of follicular tonsillitis by blowing out the crypts and making applications, but I have observed that two or three applications of a very strong solution of nitrate of silver, 60 to 90 grains to the ounce, will greatly relieve the pain in the tonsils.

I agree with Dr. Pfingst in regard to tonsillar abscess; that this condition is very rare, but we frequently see peri-tonsillar abscess as a sequela of tonsillitis. Of course, we should put on hot applications, etc., but when we have oedema of the glottis, I think it is a good idea, instead of wrapping your knife to within a quarter of an inch of the point, to leave half an inch bare and

make a pretty good incision. Of course, you must be careful and know your anatomy so that you will not cut the arteries lying behind, but make a free incision and you will find that it gives relief. I know of no condition in surgery where the knife gives as much relief as in peri-tonsillar abscess. In nine cases out of ten you can make diagnosis without looking at the throat, by the peculiar voice. The abscess is generally pointed and the thing to do is to make incision first and apply hot poultices etc., afterwards.

In regard to Dr. Cessna's case, he stated that there was a membrane on the child's throat. I am inclined to think that the doctor probably had diphtheria to contend with, because I do not know that we ever see a membrane in follicular tonsillitis, although we frequently have an exudate from the crypts of the tonsils that sometimes looks very much like a membrane, but in such cases the healthy tissue can be seen between the spots of exudate which is not the case in diphtheria. He will find out later on whether this was a diphtheria or not, and I would suggest that he watch the case rather closely, because the child is apt to develop paralysis of the fauces, evidenced by the fact that when water is taken it will come out through the nose. I have frequently treated children, who, following an attack of so-called tonsillitis, could not swallow very well, and talked somewhat peculiar. Another thing that makes me think this was a case of diphtheria is the fact that the child developed hoarseness. We seldom, if ever, find hoarseness in tonsillitis, because as a rule it does not affect the vocal cords.

Wm. A. Jenkins: I wish to briefly mention just three points, two with respect to diagnosis and one in regard to treatment.

First, I would say that whenever we see a child or a young adult, with aching pains—headache, backache, loss of appetite, etc., we should never prescribe for it as a case of gripe without looking at the throat. We should always, in doubtful cases, carefully investigate the throat.

The next point in connection with diagnosis is this: The first time we see a case of sore throat we should be satisfied with saying to the family, or to the patient, that there exists an inflammatory condition of the tonsils, and we will have to watch it and await results, because oftentimes the tonsils is the portal of entry of the acute infectious diseases. Take the acute exanthematous diseases for instance. Many times they begin in the throat, and the patient will have a sore and enlarged throat for several days before there are any other manifestations of the trouble. I have seen cases of scarlet fever in which the patient had a tonsillitis for at least a week before the eruption appeared. Any number of textbooks have called attention to this fact.

Just one point about treatment. I think, at the present, both the specialist and the general practitioner understands pretty well that the

proper course is a combination of both systemic and local treatment. There was a time when it was considered that the treatment was all local, and but little attention was paid to systemic measures. I remember an epidemic of tonsillitis that occurred when I was a medical student, and the specialists undertook the treatment of these students, having them come every day, blowing out the crypts and putting various antiseptics on the tonsils. Had these boys had the systemic treatment mentioned by the essayist, they would not have had nearly the amount of trouble they did have in getting rid of the tonsillar condition.

For the local treatment, perhaps nitrate of silver is as good as any. A great deal of the infectious material can be swabbed off the tonsil; then take a drachm-to-the-ounce solution of nitrate of silver and apply it thoroughly to the infected portions. Another exceedingly good application is Monsell's solution, 50 per cent. In treating nearly a hundred cases of tonsillitis among the children in institutional work, I gave them broken doses of calomel, followed by saline, one of the salicylates, and the above-mentioned local treatment with excellent results.

F. J. Keifer: I wish to thank the essayist for his very excellent paper. It has been so thoroughly discussed that there is hardly anything to be added to it. One point upon which I lay a good deal of stress should be in connection with the teeth. I believe that a great many systemic infections causing tonsillitis are caused by defective teeth.

In my practice I like a mixture of peroxide of hydrogen and bichloride of mercury for a local application in cases of acute tonsillitis.

Virgil E. Simpson: I believe I have suffered from tonsillitis in every form in which it is possible for the disease to manifest itself.

I would like to emphasize the necessity for microscopic examinations in all cases of tonsillar involvement. In this way we eliminate the possibility of overlooking a diphtheria. If diphtheria is present, specific treatment is indicated, and if diphtheria is not present, it is equally important in my judgment, to determine just what character of infection we have to deal with.

So far as the treatment of tonsillitis is concerned, I have lost confidence in practically everything that has been recommended in the way of drugs. I have used every form of local treatment, both on myself and those under my care, and I see little difference in the results obtained from one form of treatment as compared with another. I have used Loeffler's solution, Monsell's solution, nitrate of silver, protargol, argyrol, and what-not, and I do not believe any of them do a great deal of good. Tonsillitis is not a surface involvement; the mere application of a solution locally on the tonsil does not get rid of the infection. It is true, however, that nitrate of silver does relieve the pain, to a certain extent, just as the coal-tar preparations, codein, salicylates, etc., given in-

ternally will promote comfort and make the patient feel better, but, so far as modification of the course of the disease is concerned, my personal experience has led me to conclude that no treatment among those which I have tried, either internal medication or local applications, has been satisfactory.

To go back to the necessity for making microscopic examinations, I wish to say, in this connection, that the treatment *par excellence*, in my judgment, is the administration of vaccine. In practically every case of tonsillitis that I have seen in the past two years, I have made it a routine practice to examine the exudate microscopically, and I have found pretty nearly every possible organism present in the tonsils at one time or another. In the last case I saw, there were two strains of staphylococci, streptococci and colon bacilli present. I used mixed vaccine in this case, trying to get at the root of the trouble by combining the strains.

I have seen as much oedema from acute follicular tonsillitis as I have ever seen from diphtheria, as far as the soft palate is concerned. I have seen unquestionable membrane on the tonsils in cases which were not diphtheritic, as proven by more than one microscopic examination. The character of the exudate in these tonsillar conditions differs very materially from the diphtheritic exudate. The latter is of a peculiar color, resembling the ash of a cigar, and is thick and fibrinous, whereas the exudate observed in the more virulent forms of tonsillitis is much lighter in color.

I wish I knew of something that would prevent tonsillitis; I am more interested in the prophylaxis than the cure. I have tried immunizing with vaccines, and last year I thought I had been successful, as I went along without an attack until the middle of April, when I suffered one of the most virulent attacks I have ever had.

C. L. Nichols, (closing): I wish to thank the gentlemen for their discussion of the paper.

In regard to tonsillar abscess, it seems that most of the text-books classify anything like an abscess connected with the tonsil as a quinsy. Most cases of quinsy are, I believe, originally tonsillitis, but occasionally we see a case where there has been no tonsillar involvement at all, and yet an abscess has formed back of the tonsil. Of course, it is possible that this infection might travel through the crypts and not be noticed.

I selected this subject for my paper because of the trouble we have, especially at this time of the year, in differentiating between the diphtheritic and non-diphtheritic cases.

MULTIPLE RUPTURE OF THE SMALL INTESTINE

By ALBRO L. PARSONS, Louisville.

Multiple subcutaneous rupture of the small intestine is comparatively rare, only nine out of Gage's eighty-five cases having sustained more than one laceration. Therefore, the following case, which I report through the courtesy of Dr. Dugan, may not prove without interest.

C. R., male; colored; 45 years old; fell about 40 feet from a scaffold. The details of the fall are unknown. I saw him shortly afterwards at the City Hospital, 4:00 p. m., November 7th, 1911. He was in profound shock. Examination revealed, a small scalp wound over the sagittal suture, one inch long, but no fracture. The left eye was contused. The floor of the left axilla was torn open from the anterior to the posterior folds, the muscles being uninvolved. It appeared as if he had grabbed some support while falling, and the weight of his body had been almost sufficient to tear the arm loose. The left shoulder was dislocated, the humeral head resting under the middle of the clavicle. Chest normal. The abdomen was flat and slightly tender, but at no particular point; there was no abdominal pain. The recti were all but relaxed. A small umbilical hernia of long standing was noted with the sac empty. Urine bloodless. The patient complained bitterly of his shoulder, and was given morphine, gr. 1-4, atropin gr. 1-150, both for this pain and as a preliminary to the anesthetic. Under the application of heat, etc., he rallied promptly from the shock, and was then anesthetized. The shoulder was reduced, the axilla packed, and the patient returned to bed in good shape.

November 8th. Condition good; patient comfortable. Abdominal conditions were similar to those found on the preceding day. At 5:00 p. m., he complained, for the first time, of abdominal pain. Tenderness and rigidity were the same (very slight), but the abdomen was somewhat distended. His bowels had not moved. I noticed, for the first time, the absence of peristalsis, and expressed the belief that we were dealing with an adynamic ileus following shock. Orders were left for enemas to be given, and that results be telephoned me later. At 11:00 p. m. Dr. Bailey kindly notified me, that the enemas had returned clear; and no gas had passed. The patient was again in shock; pulse 160; temperature 101; expression anxious; abdomen ballooned; great abdominal pain; muscles tense and general tenderness all over abdomen. He had not vomited.

As soon as possible the abdomen was opened in the mid-line. The cavity contained a little

foul-smelling, pea-soup-like fluid; no free gas was detected, nor could I identify any feces. All the peritoneal surfaces below the transverse meso-colon were inflamed and coated with pale butter-like lymph, which in places reached a remarkable thickness. This also filled the little hernial sac. At about the junction of the ileum and the jejunum a rupture was found. It was opposite the mesentery, and large enough to admit the finger-tip. The everted mucous membrane so effectually plugged it that little or no gas had escaped from the enormously distended coils in the vicinity. Closed by Lembert suture. Reading downward about four feet above the ileo-cecal valve, a rent one inch long was disclosed. The edges were ragged and the wound gaped open. The gut in the neighborhood was collapsed. Rupture closed. Reading upward from the first tear, and about four feet therefrom, I came upon a third rupture—a duplicate of the first. Patient's condition was now very bad; pulse 180. Anesthesia stopped and 1,000 c.c. of saline solution given. As no blood was found in the cavity, I argued that the liver, spleen, etc., had escaped harm. The fluid in the abdomen was rapidly absorbed with wet sponges, and the wound closed with through and through silk-worm gut, after inserting a tube down into the pelvis. Having washed the stomach out, the patient was returned to bed and the Murphy treatment for peritonitis instituted.

The next day, November 9th, the patient was fairly comfortable; pulse 150; no gas was passed. He vomited at times, and during the day the stomach was washed at intervals.

November 10th, condition practically the same until 11:00 p. m., when he died. Dr. Leon K. Baldauf kindly did a post-mortem. He reported that, other than the three ruptures, there was no visceral lesion. The repaired intestinal rents were properly sealed.

We have here illustrated two types of rupture. That nearest the valve was undoubtedly the result of direct force. The location of the rupture, its shape and its ragged edges, all point to the gut having been caught between the traumatizing agent and the sharp saccal promontory (Andrews). The two other lesions were of the "blow-out" variety. They must have occurred in loops, the ends of which were occluded by kinks, by the force, or both (Sauerbruch), and in which the intraluminal pressure had been raised to the bursting-point. As in nearly all such ruptures they were situated on the free border. I do not believe that this case meets Bunge's suggestion of rupture occurring in herniated intestine, which later withdraws from the sac. Although the patient had an umbilical hernia, it was far too small to accommodate three coils,

even if they were situated close to the ring, which was not true in this case.

The diagnosis of visceral injury demanding surgical intervention, is not difficult even in early cases when based on such classical symptoms as history, pain, shock, vomiting, abdominal rigidity, etc. There is, however, no pathognomonic sign of intestinal rupture occurring with sufficient regularity to enable the surgeon to conclude anything more definite than that he is dealing with grave peritoneal insult. However, it is to the atypical cases that I wish to call attention, for their symptoms are so irregular, both in regard to intensity and time of appearance, as to render timely diagnosis extremely difficult.

Theoretically, but not always practically, the symptoms should be divided into the pre-peritonitis signs and those due to inflammation of that membrane. He will obtain the best surgical results who can earliest recognize and properly interpret the former. It is most unfortunate that in many cases the first symptoms which draw the attention to the abdomen are those of commencing peritonitis. Pre-peritonitis signs are at times entirely lacking until so late that their appearance is simultaneous with the peritonitis. Curtis, Senn, Means, Battle, Bryant, Robson, and others, all speak of *delayed* symptoms. Stone had this in mind when he wrote, "The symptoms of peritonitis may be delayed, appearing some time after shock has subsided, and following an interval of marked seeming improvement." Quoting Robson: "The usual symptoms might be absent for a time, only becoming evident after some hours, and failure to diagnose might occur from injuries to other regions taking the attention away from the abdomen." This, I believe, is what happened in my case. The patient entered the hospital with his intestine ruptured, but the symptoms were not only delayed, but masked by his other injuries.

Mr. Bennett, in discussing Robson's paper, declares that a week is not too long to regard abdominal contusions with suspicion, and relates of a boy struck by a cricket ball, whose only symptom was tenderness. A week in bed restored him apparently to health, but when allowed to arise, he fainted and died. An autopsy showed a complete rupture of the duodenum.

Mr. Bryant reports two such instances. The first did well until the 19th day, when he died and at autopsy a perforated duodenum was found. Could this have been an ulcer? The other, he describes as "perforating on the fifth day." Autopsy revealed a laceration four inches above the cecum. The present state of our knowledge allows us only to advance surmises which may explain this tardiness in certain cases; for instance, in blow-

outs, the mucous membrane plugs the opening, preventing the escape of intestinal contents (Stone). This barrier may at any time give way. The two blow-outs I observed were effectively closed. Again, if the intestine is only contused, it may be days before the weak spot breaks down. Jobert (Keen) and Senn call attention to incomplete ruptures, which involve one or two coats of the intestine only. Poland mentions two such, one affecting the mucous membrane, and the other the serosa. These cases may later become complete ruptures. They, however, partake more of the nature of a perforation similar to that occurring in typhoid fever, and should not properly be considered ruptures. A retro-peritoneal tear, as might occur in the duodenum, will also explain some cases of delay.

One of the most misleading symptoms may be the history. If the rupture occurs by indirect force, the anterior abdominal wall will not have been struck at all. Senn's patient, while walking, slipped and fell upon the buttocks. Bottomly and Westbrook each report similar cases, their patients having been struck from behind. The patient's actions after the trauma may be not at all in keeping with so grave a lesion. Out of 100 abdominal contusions, collected by Michaux, 10 continued their vocations for a time; some even with complete laceration of the intestine (Senn). Rioblane reports two such cases. Poland treated a child of thirteen who walked a mile with a lacerated duodenum. Battle saw a man who finished his work (an hour and a half) and even returned to it the next day, after a kick which resulted in a rupture. Gage's case was very similar. Professor Enderlen's patient, with multiple ruptures, walked home and did not go to bed for hours, and Bryant's case No. 21, came to the hospital on foot.

The trauma itself may be deemed insufficient to cause so much damage, yet no greater mistake could be made. A fall from the erect to the sitting posture was sufficient in Senn's case. Bryant saw a child who, at play, fell on the sidewalk and ruptured the ileum. Many of the above-mentioned cases, even when caused by direct force, showed no signs of injury upon the abdominal wall. My case, after a fall of forty feet, presented no such evidence except the slight tenderness already noted.

Pain, Nature's so-called red flag, may fail us as a symptom. It was slight in 29, and totally absent in 6 of Sherck's 182 cases of visceral injury. Makin says it may subside to reappear later, in one case as late as the third day. In his series of 21 cases, only two are described as having severe pain. A patient observed by Chavasse had severe pain at first (3:00 p. m.); then felt comfortable until the

next night, when he vomited and died of rupture of the jejunum (Senn). Jolley's case had no pain for 38 hours; Golden's for 10 hours. Royster states that his patient, a boy of eight, had no pain at all, and Buchanan reports a similar experience. The patient observed by Battle, though run over in the afternoon, did not suffer until nine the next morning. This was true of Knagg's patient, who fell at 2:30 p. m., and did not complain until the following day. Parkinson's patient did not mention her abdomen, after a fall, but complained bitterly of her ankle, yet died of ruptured intestine. However, in 97 per cent. of visceral injuries, pain will be a feature (Sherck). In my own case it was 26 hours before the patient complained of abdominal pain, which was after peritonitis had set up.

Tenderness is an important symptom. It is allied to pain and nearly always present. In Makin's series it was mentioned 16 times, and of these two failed to exhibit it. Perez (Keen) lays stress upon the tenderness becoming general, and not confining itself to the site of injury. General tenderness, I take it, is a symptom of peritonitis and, therefore, appears too late for the attainment of best results. As a symptom, tenderness gains in importance if it occurs in a case where the abdominal wall has escaped injury; that is, in ruptures by indirect force. As above noted, the case reported to-night had slight tenderness, which was mistaken for jail injury. On the other hand, case No. 4, cited by Stone, had slight though general tenderness. An operation revealed, not rupture, but a large contusion of the ileum.

Closely allied to pain and tenderness is muscular rigidity—an almost unailing symptom of visceral injury. That it may fail, however, is shown by an analysis of 159 such cases in 20 of which it was slight, 7 appeared late, and in 7 not at all (Sherck). It is well known that the muscles, at first rigid, may relax (Campbell, Enderlen, etc.), but this is probably due to ensuing peritonitis. Out of Makin's series, it developed early in 13, but in 4 it did not appear until late—7 to 18 hours. Thomen makes the amazing statement that it appeared in less than one-third of his series, 6 out of 20 (Eisendrath). This is directly at variance with Hartman's observation of 17 ruptures, in all of which rigidity played a role, while in 20 abdominal contusions, without rupture, it was not present (Senn). In visceral lesions in general, rigidity may be demonstrated in 90 per cent. (Sherck).

Shock is the one symptom we would most confidently expect. However, Sherck places it third among the symptoms of visceral injury—82 per cent. It was totally absent in 17 out of 94 of his series, while in 31 it was mild. None of the patients above mentioned, who

continued their vocations, could have suffered much from shock, certainly not early. Bryant's cases, Nos. 13 and 25, were not shocked at all, and case 20 very little so. None appeared in 3 out of 18 of Makin's series where mention was made of it. Jolley, Buchanan, and others, report similar observations. My patient was in profound shock but his many other injuries seemed sufficient cause.

Buchanan's case, which had neither pain nor shock, did vomit, a most valuable symptom. My case did not do so until after the second operation, when peritonitis was well advanced. Trendelenberg and Berndt consider vomiting almost pathognomonic. (Senn, Eisendrath). The latter goes so far as to believe that vomiting is only slight if the bowel is contused, but if torn, the nerves are exposed to the irritation of the intestinal contents, and the vomiting is severe. Emesis, however, will follow blows over the solar plexus, and may accompany shock from any cause. It did not occur in Bryant's case No. 25, nor in Golden's patient. Knaggs and Campbell, both speak of its being delayed. On the other hand, Holland reports a child who, upon falling downstairs, vomited, and presented no other symptoms until she died 24 hours later of ruptured jejunum (Senn).

Sherk's essay should be considered classic if for no other reason than the emphasis he lays upon the absence of peristalsis. Gaub demonstrated that abdominal trauma, followed by paresis of the gut, which does not subside in a few (four) hours, is almost certain evidence of serious injury. This is equally true when paresis recurs, or reappears after reaction has taken place (Sherk). He reports cases whose only symptoms were vomiting and paresis, and who were found to have sustained rupture. Conversely, where all signs pointed to rupture except the absence of peristalsis, operation revealed no lesion. Claybrook and others have noted this point. Buchanan, in the face of the fact that his patient had no shock, no external injury, and so little pain that morphin was not required, made a diagnosis of rupture from slight vomiting and paresis. He found a small rupture. Adynamic ileus must, of course, be kept in mind, but such cases usually clear up in four hours or less. However, Stone operated upon a case with complete paresis and found only a contused intestinal wall. The patient recovered but the bowel remained paralyzed for ten days. My patient had paresis, which, in conjunction with the vagueness of the other abdominal symptoms, I mistook for adynamic ileus. On the whole, I am inclined to regard paresis as a most trustworthy symptom, and am surprised at the frequency of its mention by observers—only five times out of 265 collected cases of abdominal contusions. In two

of these it was absent and no lesion was found (Sherk).

The facies abdominalis deserves mention. It usually appears early, but may not be marked until the advent of peritonitis. My patient may have presented it, but it was noted by none who observed him. After peritonitis was established it was, of course, very plain.

Among the minor symptoms the following may be noted as important in the chain of evidence, but their absence must not be too significantly regarded. Bloody stools rarely occur. The hemorrhage is not profuse as a rule. It may occur into the cavity, not into the gut and, furthermore, the paralyzed intestine fails to pass it on to the rectum. Enema, as in my case, often do not reveal its presence. With such peritoneal trauma we would expect the patient to lie with knees flexed even before peritonitis, but the patient I saw lay straight out in bed at all times. Abdominal distension comes on late, and should be considered a sign of peritonitis. Rapid superficial respiration, mentioned by Perez (Keen) is certainly allied to muscular spasm, and becomes more marked with the advancement of peritoneal inflammation. Both these symptoms appeared late in my case. The diminution of liver dullness is most important, as it shows free gas in the cavity, but is by no means constant and was not present in the case I report. Leucocytosis, and the demonstration of fluid in the flanks, are valuable but not sufficiently so to be waited for. The temperature is of little help. The pulse is invariably accelerated, no matter how illy-defined the other symptoms of rupture may be.

With so much that is indefinite, in the symptomatology, it is not surprising that mistakes in the interpretation of symptoms have been made in both directions. Koerte says he has made positive diagnoses from clinical symptoms, yet in spite of the fact that the patients were not operated upon, they have recovered. (Enderlen). Monroe has opened useless cases and says he will probably do so again. Many, however, have erred on the other side, and the delay has proven fatal. Bottomly analyzed an equal number of cases of abdominal contusions with and without visceral injury, and found that shock, pain and vomiting "varied in individuals in the early hours, irrespective of the nature of the lesion, and many cases could only be decided by exploration." (Stone). As surgeons we know that, where a reasonable doubt exists, it is safest to explore, yet it must be acknowledged that it is hard to make the patient assume this viewpoint. Under such conditions it is probably best to throw the responsibility upon the patient and his friends after a full and frank explanation.

The treatment is entirely surgical. The location of the incision has been a matter of controversy, some advocating the mid-line, others advising the site of injury. My own preference is the former. Most injuries occur below the umbilicus, on account of the thinness of the walls of the ileum and the role played by the sacral promontory. If other lesions are disclosed, this incision is equidistant from either flank and can be readily extended upward. Although speed is much to be desired, it is hard to attain. The appearance of the peritoneum leads one readily to the rupture, unless the contents of the bowel have been dispelled over the entire cavity by an explosive-like action. Then everything is matted together and the intestine must be read from one end to the other. Had I not done this I might readily have overlooked at least one rupture. All this must be done as gently and with as little handling as possible. Ruptures the size of those I found are closed by Lembert suture, but at times resection is necessary. In some cases, if the rupture is low down, and the condition of the patient demands desperate measures, a temporary fistula may be made. Tears in the mesentery and other lesions having been corrected, the treatment becomes that of peritonitis, which is beyond the scope of this paper.

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DISCUSSION.

W. C. Dugan: I saw this patient with Dr. Parsons, and I do not think he need feel that there

you are very skilled in physical diagnosis, you will, upon percussion, be likely to mistake a distended colon, with gas separating the liver from the abdominal wall, for a rupture of the intestine. Again, we may have adhesions about the liver giving rise to the same condition, so that free gas in the cavity has very little, if any, value as a diagnostic sign of rupture of the intestine. If we see the patient early, when there is leakage into the abdominal cavity with no adhesions in the liver, then it is a very valuable sign indeed. Later on, when general tympany has become pronounced, I doubt the ability of even a skilled diagnostician to make a diagnosis by outlining the area of hepatic dullness.

What I consider the most valuable symptom of rupture of the intestine is delayed shock, which is usually found in rupture of the intestine with leakage of gas or fluid, coming on some time after the patient has reacted from the first shock. That is what is called secondary shock. Then we have shock coming on later, as mentioned by the essayist, upon separation of the adhesions of the coils of intestines overlaying the rupture. What has most likely occurred is that hemorrhage has taken place in the wall of the gut which has become septic or congested, and we have the secondary condition Dr. Parsons speaks of.

The treatment of these cases is purely surgical and, as the essayist has stated, the earlier diagnosis is made, the more favorable the outlook. If we see the patient before twenty-four hours have elapsed and make diagnosis of rupture of the intestine, the prognosis is reasonably good. When the patient has a very rapid pulse, with the peculiar appearance of the face indicating sepsis, and a great amount of distension, I do not think we can expect very much from operation. I believe the best thing to do in such cases is to treat the patient just as we would treat a case of fulminating appendicitis, simply making a stab wound and introducing a drainage tube. I doubt whether extensive surgery is indicated, as most of these cases will die on the table, or within a few hours after operation, and I believe a larger proportion of them will get well under the more simple treatment, trusting to nature to take care of the infection.

C. B. Spalding: I have thoroughly enjoyed Dr. Parsons' very excellent paper, particularly because I had a similar experience in a case of this character.

As Dr. Dugan has stated, two conflicting things that make for a bad prognosis are, first the fact that a good result depends upon an early diagnosis, whereas early diagnosis is made difficult by the late symptoms. One symptom that occurs probably as often as any other, is rigidity of the muscles, sometimes appearing even before there are any symptoms of shock. In this type of cases the diagnosis is often confused by the history, which was true in Dr. Parsons' case. I think this should teach us that, in the presence

was any lack of diagnostic skill on his part in having failed to detect the condition that was present, in view of the fact that it was so greatly masked by the other and more apparent pathology. When I first saw this man his arm was thrown out in such a position that it looked as if the end of the bone had penetrated the pleural cavity. He also had an injury to the head.

The diagnosis of internal rupture is often very difficult. The injury may have been slight, just a blow upon the abdomen, and the patient may lapse into profound shock, or a swoon, and remain in that condition for some time. Again, as stated by Dr. Parsons, an individual may have an extensive rupture and go along for quite a while before there are any manifestations suggestive of rupture of the abdominal viscera. Hemorrhage is nearly always slow in these cases, unless the kidney, liver, or other solid organ is involved. If the spleen is injured, we will have clotting around that organ as suggested by the essayist.

The subject of injury to the intestines was first called attention to by Flynn, many years ago, and it was thought that the question of penetrating wounds of the hollow viscera had been about settled. However, so many of the symptoms that we expect to find in rupture of the intestine are also present in other conditions, that they are very misleading. For instance, unless of a history of any trauma to the abdomen, we should be on the safe side and make early diagnosis by exploratory incision if necessary. This will do the patient no harm and may save his life.

I have had, in my own experience, a case similar to that related by Dr. Parsons, but until tonight it had not occurred to me that the trouble was in all probability rupture of the intestine. I was called at night to see this man who gave a history of having received a blow in the abdomen. He was not suffering very much pain, and I told him I would see him the next day. When I saw him again he had a general peritonitis. I advised prompt drainage, but by the time he had made up his mind to undergo operation his condition was such that I declined to operate. He died, and post-mortem examination showed a wound, which looked almost exactly like it had been made by a gunshot, in the small gut adjacent to the left inguinal canal, with the mucous membrane everted. The man gave a history of having had a hernia, and I do not know whether he had a rupture, or whether a sloughing piece of the gut slipped back into the cavity at the time of the injury.

I think the chief lesson to be learned from this very instructive paper is that when we get a history of injury to the abdomen we should lose no time in opening it, explaining to the patient the great danger from a possible rupture of the intestine, and the comparatively slight, if any, danger from an exploratory operation.

Guy P. Grigsby: I have seen one case in my own practice similar to that reported by Dr. Par-

sons. This was a man that I saw in consultation with Dr. Farmer. He gave a history that, while in an intoxicated condition, he had been thrown from an automobile, striking his hip against a rock wall. He was attended by several doctors at the time of the accident, morphine being administered, and he was also given several additional drinks by his friends. I did not see him until 10 or 11 hours after the accident, at which time Dr. Farmer and myself went over his abdomen very carefully, but were unable to elicit any thing that would indicate that this man had incurred any injury to the abdominal viscera. We did, however, find that he had a fracture of the neck of the left femur, and he was made comfortable for the night with sand-bags. We saw him again the next morning, at which time his pulse had dropped and his general condition appeared to be good. We again went over his abdomen, but there was still no rigidity, point of tenderness, nor anything suggestive of injury to the abdominal viscera. Therefore, we did not deem it necessary to wait any longer, but gave him an anesthetic and put him in a plaster spica. He went through that day and night very comfortably without the use of an opiate of any sort. When I saw him the next morning he was uncomfortable, which I thought was due to the plaster. His general condition was apparently good; pulse about 100, and I did not anticipate any trouble. I was called back to the hospital about two o'clock that afternoon, because of the intense pain which the patient was suffering, and as soon as I walked into the room I noticed that he had the facial expression typical of general peritonitis. I called Dr. Farmer and we cut the plaster. We at once noted that there was beginning distension and realized that we had a more serious condition to deal with than we had anticipated. Dr. Vance saw the case an hour or two later. After removal of plaster the patient was extremely restless and evidently started a hemorrhage, and the man went rapidly into shock and died that night. Unfortunately, we were unable to get an autopsy, but we came to the conclusion that the man had an intestinal rupture, probably of the sigmoid.

It seems to me that it is very hard to determine just what we are dealing with in these cases. Of course, in cases where a large vessel is ruptured with the pronounced symptoms of internal hemorrhage, the diagnosis is comparatively easy. Also in those cases where the intestines are distended and, as soon as rupture occurs, there is extravasation of the contents, with the consequent profound impression upon the peritoneum, together with the characteristic rigidity and tenderness, the diagnosis is not difficult. But, in those cases where the intestinal opening is small, or the intestinal contents are more or less solid in character and leak out very slowly; where the symptoms are slow in manifesting themselves, and there is no muscular rigidity, nor anything

upon which we can base a diagnosis, it is exceedingly difficult to arrive at a definite conclusion. In such cases it would appear that, if the patient's consent can be obtained, exploratory operation is the thing to do, and will unquestionably clear up all doubt in the matter; but it has been my experience, in one or two of these cases that I have seen in hospital work, that it is a very difficult matter to get the patient's consent to do an exploratory operation unless there is a great deal of pain, and, as a rule, consent is not given until it is too late for operative interference to do any good.

Chas. Farmer: I agree with the previous speaker that diagnosis of ruptured intestine is very difficult; usually there are other serious injuries complicating it. In the case Dr. Grigsby referred to, I saw this patient shortly after the injuries were received. The man was intoxicated and was a very nervous individual, which made the diagnosis in that case more difficult. When I saw him I gave him a dose of morphine and left him. About two or three o'clock I received a telephone message that he was suffering a great deal of pain. I at once sent him to the infirmary and on the way there he evidenced a great deal of thirst, calling for a glass of ice-water every square or two. The next morning, however, after having rested at the Infirmary all night, he seemed to be much improved. As Dr. Grigsby stated, he had a fracture of the femur, which was put up in a plaster cast, and he seemed to be doing very well until Tuesday morning, when he developed distension and died about sixty hours after receipt of the injury.

S. C. Frankel: I saw the case Dr. Parsons cited. I did not examine the patient at that time, but took only a superficial look at him. He was just coming out of shock, and I did not examine his abdomen and had no idea that he had any injury there. I thought the profound shock was due to the injuries to his head and chest. Upon hearing several days later that this patient had died of rupture of the intestine, I was very greatly surprised.

Irvin Abell: Dr. Parsons has presented the subject in a very interesting and practical manner.

Rupture of the intestine due to direct violence is much easier to diagnose and treat than those due to indirect violence. My own personal experience has been limited to those due to direct violence, and, strange as it may seem, all of these cases, five in number, have been due to the wheels of some vehicle passing over the abdomen. Two of them accepted the suggestion that the abdomen be opened. In one the intestine was found to be torn in one place, and in the other, while the intestine was not torn there were multiple haematomata in the intestine and mesentery.

Of the other three, two presented profound shock and one presented haematuria. One was

advised to have his abdomen opened, refused, and died; the others were simply kept under observation and recovered.

It seems to me that, in cases where there is a history of direct violence to the abdomen, the only sure way to determine the extent of the injury is to open the abdomen, and this should be done at a time when operative interference offers the greatest chance of success. In cases of the type reported by Dr. Parsons, where the injury is indirect, or where there are associated lesions of such gravity as to account for all the symptoms manifested, it is a matter of impossibility to make diagnosis until such local signs appear as direct the attention to the abdomen, and when these do appear it usually means the onset of peritonitis, which, unfortunately cannot always be controlled.

Bernard J. O'Connor: One feature of these cases to which I wish to call particular attention is the pulse rate. I believe that, in traumatic rupture of the intestine we have an analogy to disease conditions such as appendicitis, etc. Moyuahan has laid great stress upon the fact that for three or four hours there is little or no increase in the pulse rate; that it does not as a rule, increase in rapidity until there has been a certain amount of toxic absorption. The case Dr. Grigsby detailed is illustrative of this point. I have recently seen several cases of appendicitis with perforation where the pulse rate was not over 72.

I believe that, in some cases of abdominal trauma, rigidity and other symptoms are entirely absent. I saw one case of this character last summer in a man who had fallen from the fourth story of a building and sustained a broken ankle. His pulse rate was 90, general condition good, and he manifested very little evidence of shock. The ankle was put up in plaster of Paris, and 36 hours later the patient showed evidence of shock, which was so intense as to carry him off within four hours after the first symptoms. At no time had he shown any manifestations of injury to the abdominal viscera, except that blood was found in urine obtained by catheterization, but this all cleared up and the amount of urine eliminated was normal. A small amount of blood was also found in the first bowel movement following an enemata, but the second specimen showed no trace of blood. What brought on shock in this case I was unable to learn, as autopsy was refused, but my opinion was that it was due to an intestinal perforation and peritonitis.

A. David Willmoth: There is just one point that I would like to mention in connection with this valuable essay; that is, the question of rigidity which has been referred to by previous speakers. It is perfectly clear why we do not have rigidity in some cases, and why we do have it in cases like that mentioned by Dr. Grigsby. For instance, in conditions such as per-

forated gall-bladder in typhoid fever, or perforated appendicitis, where we have a pouring out of gas or infectious material from the gut, the muscles of that area become paralyzed to such an extent that rigidity does not take place. The same thing may be produced by traumatism. Where we have trauma to the abdominal wall sufficient to bruise the gut, it is also apt to prevent the muscles from becoming rigid. Just as in perforated appendicitis, the bowel is soft and the surgeon's attention is not called to that particular area until the patient has rallied sufficiently to have stiff muscles, and by that time it is too late to do any good.

W. C. Dugan: I would like for Dr. Willmoth to tell us his guide for operating in these cases?

A. D. Willmoth: I do not think the surgeon has any set guide. We have no accurate guide that will enable us to make the diagnosis early.

J. Hunter Peak: Like Dr. Abell, I have seen several cases of rupture of the intestine which were due to wheels passing over the abdomen. I remember one case in particular, in a boy 12 or 13 years of age, which illustrates the point brought out by Dr. Dugan in regard to shock coming on late. This boy was injured about four o'clock in the afternoon, the wheels of a heavy wagon passing over his abdomen, and, notwithstanding the large amount of trauma he sustained as revealed by operation at nine o'clock that night, he was able to get up and tell the people who gathered who he was and where he lived. He was taken home by a physician who happened to be passing, and who thought that the boy was not badly hurt. He did not exhibit symptoms of any severe lesion during the ride home. The doctor put him to bed and examined him, and found that he was considerably bruised on the left side just above the ileum. He told the mother that the child probably had a severe injury and that symptoms might develop later; not to feed him, but to keep him quiet, and if any symptoms developed to let him know. Two or three hours later the doctor was called and found the boy in pretty severe shock, and advised that he be sent immediately to the Infirmary where I saw him in consultation. By that time he was in profound shock, and it was a question in my mind whether or not it was due to hemorrhage. The abdomen was very tense and it seemed to me that a haematoma could be made out to the left of the umbilicus and between that and the crest of the ileum. Under warm packs and stimulants the boy rallied somewhat, and about nine o'clock that night we opened the abdomen in the median line, and I want to say that I never in my life saw so much trauma to the intestines as we found in this case. The wheels of the wagon had passed entirely over the abdomen, and there were any number of places where the intestines were bruised and blackened just the width of the wheel. The gut was torn entirely in two at the juncture of the descending colon

with the sigmoid flexure. This was repaired. The mesentery had been torn and tremendous hemorrhage had occurred. This place was closed, the gut stitched, and the patient put to bed in bad shape. He rallied somewhat and the next day was better, but died about forty-eight hours after receipt of the injury.

I remember another case in a woman who was thrown against a seat by the sudden stopping of a train. Shock occurred immediately in the case, just as though she had been struck in the solar plexus with a fist. Not much attention was paid to her condition at that time, but late after she had been taken home, she began to have hemorrhage from the bowel. I advised that an exploratory operation be done. This was refused, but she remained in the Infirmary for several days on a very light diet, and the hemorrhage ceased and she recovered.

We often see cases of gunshot and stab wounds, with severe injury to the intestine, but without any shock for some time afterwards.

Albro L. Parsons, (closing): I was considerably chagrined to feel that this patient had been under my care for twenty-four hours during which time I did not detect the fact that he had three ruptures of the intestine. This led me to look up the subject and after I had been making articles for about two weeks, I came to the conclusion that a good many men have done the same thing. It is appalling to think that one a slip and fall on the ice may result in a rupture of the intestine, as in Dr. Senn's case. As Dr. Willmoth says, we have no infallible guide in these cases; there is no symptom that is absolutely pathognomonic.

In a paper by Dr. Andrews of New York, he speaks of certain manufacturing plants where compressed air is used and says that when a new workman is employed, it is the custom of the others to "initiate" him on the evening of the first day. The "initiation" consists of throwing this compressed air, under a pressure of 60 pounds to the square inch, against the buttocks. This amount of pressure is sufficient to dilate the anus and the air rushes into the intestine, often causing a rupture of the large bowel. It has been shown that 8 to 10 pounds pressure is sufficient to rupture the large intestine. I did not take this phase of the subject in my paper, as it was intended to deal only with rupture of the small intestines. This is often caused by certain mechanical pursuits, such as receiving boards in a planing mill, particularly in the pine belt in the South. In the army, a kick from a horse is the most frequent occurrence, and in these cases multiple ruptures are nearly always found, occurring just at the points where the heels of the shoe strike the abdomen.

In conclusion, I wish to say a word of recommendation for the Library. When I began to look up the subject I obtained a lot of reference

and I was somewhat surprised to find that practically everything I wanted or needed was to be found on the shelves of the Jefferson County Medical Library.

VERTIGO.

By ADOLPH O. PRINGST, Louisville.

With the recent advances in the study of the anatomy, physiology and pathology of the internal ear by otologists, notably those of the Vienna school, our ideas of the significance of vertigo have materially changed. Though even now the physiology of the inner ear is not fully understood, it is practically agreed that the vestibule and semicircular canals have an important function in the maintenance of the equilibrium of the body. Just how the influence is exerted is as yet largely problematical.

It has been pointed out by Nagel that there is a whole series of dizziness forms ranging from one extreme of purely visual confusion to the opposite of mechanical rotational disturbance.

From my reading, I am convinced that there exists some difference in the interpretation of the term vertigo. While medical dictionaries probably without exception, employ the terms vertigo, dizziness and giddiness synonymously, I feel sure that the general conception of the term vertigo, is that it denotes dizziness in its superlative degree, and that giddiness is employed to express the condition in its mildest form. It is needless for me to state that vertigo in any of its forms or severity is but a symptom. It is frequently accompanied by such other pronounced symptoms, as disequilibrium, nystagmus, tinnitus, headache, vomiting and deafness, which aid in the differentiation of the various forms of vertigo and their causes.

Vertigo has been variously defined. Starr speaks of it as an uncertainty of position, attended by a sensation as if the body itself were being revolved in any one of its possible directions (subjective vertigo), or as if objects outside of the body were turning rapidly (objective vertigo). It has also been defined as a disturbance of the faculty of orientation creating a false conception or an illusion of ones relative position to space or motion.

It is now generally believed that the vermis of the cerebellum has to do with maintaining the equilibrium of the body by way of impulses passing to the cerebrum through its peduncles, and giving it the faculty of orientation, or the ability to appreciate one's position in space. It is also believed that vertigo with but few exceptions is the result of interference with the conduction to the cerebellum of certain peripheral or afferent impulses which are essential to the generation of the

new impulses going to the cerebrum and controlling orientation.

Recent study has demonstrated that ninety per cent. or more of all cases of vertigo are due to disturbance in the vestibular impulses resulting from ear diseases (Gowers). However, notwithstanding that the static impulses from the labyrinth are the most important afferent impressions governing orientation, the fact that after removal or destruction of one or both labyrinths, the equilibrium is regained, is evidence of contributory factors. These have been shown to be the impulse of sight and the so-called kinesthetic impulses which include the tactile, muscular and arthrodial senses. When these impulses agree, normal conditions prevail, but any discord between them brought on by interference with any one of them is accompanied by interference with orientation and the distressing sensation of vertigo.

In studying the various diseases and their influence over the afferent impulses to the cerebellum, we find but few instances in which the kinesthetic impulses are involved. Probably the best example is locomotor ataxia. It is believed that in this disease interference with the impressions is partially the cause of dizziness, but the chief factor is the interference with the impressions from the motorial organs (muscles and joints).

That the interference with one of the impressions which guide the center for the maintenance of equilibrium is not always associated with disequilibrium and vertigo, is exemplified in cases of locomotor ataxia, where, notwithstanding disturbed kinesthetic impulses, the equilibrium is maintained until the eyes are closed when dizziness prevails. In this instance the visual impressions help to maintain equilibrium and prevent dizziness.

A study of the influence of visual impressions upon the equilibrium center has shown that the impressions are not those of vision proper but that it is the projection of what is seen in relation to the position of the body. So we have in sudden paralysis of the ocular muscles vertigo (usually subjective), resulting from the seeing of two objects and an unconscious endeavor to distinguish between the false and true image. Vertigo also occurs when the patient is trying to sight or follow an object with a paretic eye. The patient locates objects wrongly, increasing proportionately as the paretic muscle is called upon in looking at them.

The net results of this false projection is that when he does use the paretic muscle or turn the eye, the objects that he sees, appear to move, and each at a different rate of speed, depending on its situation. This kaleidoscopic movement gives rise to a peculiarly unpleasant vertigo (Duane). In such cases vertigo

persists even though the nonparetic eye be closed, while the vertigo due to diplopia ceases upon closing one eye. Dizziness is perhaps seen more frequently in heterophoria or latent squint, than in all other conditions of the eyes. The vertigo which is at times observed in astigmatism, is believed to be due to reflex action.

Vestibular impressions which have to do with the equilibrium control emanate in the ampullae of the semicircular canals, the so-called static portion of the labyrinth. They pass by three tracts of fibres to the cerebellar centers governing equilibrium.

One of these tracts communicates in Deiters nucleus in the medulla with ocular fibres coming from the quadrigeminate bodies, one in another nucleus in the medulla with fibres which have to do with maintaining the muscle balance and another with fibres from the higher centers in the brain. It is now believed too that some fibres pass directly from the vestibule to the cerebellum without giving off collaterals. Disturbance of either one or the other tracts induces disequilibrium with associated vertigo and nystagmus.

Vestibular vertigo represents a large percentage of all forms of dizziness. It appears in varying forms, intensity and duration. It is either due to vestibular irritation increasing the excitability of the affected side or to vestibular destruction, causing superexcitability of the opposite side. It has been proven experimentally that the vestibular symptoms occur only when the preponderance of stimulation is on one side.

Clinical experience has shown that variations in pressure in the static ear is the most frequent factor in bringing about disturbed aural impressions by exciting the nerve endings. These variations may be due to intrinsic causes depending on primary conditions of the internal ear, or the influence may be transmitted from without through the sound conducting apparatus. As typical instances of this kind I would mention the vertigo frequently resulting from syringing the ear canal, from blows upon the ear, from sudden loud explosions, from the pressure of impacted cerumen or from living bodies, as flies and bugs getting into the ear canal. Vertigo accompanying a closed Eustachian tube is now generally believed to result from increased pressure exerted on the stapes by way of the ossicles and the drum membrane.

In middle ear sclerosis, the adhesions of the foot plate of the stapes and rigidity of the membrane of the round window is a frequent factor in increased vestibular pressure and vertigo. The large number of cases of chronic catarrhal otitis media, which come to us with tinnitus, deafness, vertigo and at times all of the symptoms which have been describ-

ed as Meniere's syndrome come under this category.

Less frequently an accumulation of fluid, either serous or purulent, the result of acute catarrhal or suppurative middle ear inflammations may create an increase in pressure.

Occasionally the inflation of air through the Eustachian tube is followed by a brief period of giddiness, evidently the result of momentary increase in pressure.

When vertigo occurs during purulent otitis media it is of serious importance, especially in the chronic cases. In these it may be due to the presence of pent-up pus, granulation tissue, or cholesteatoma, causing pressure upon the labyrinth. However, in most instances, vertigo occurring in the course of chronic suppurative otitis indicates involvement of the labyrinth itself through bone necrosis or pressure erosion as it occurs in cholesteatoma. Hence the development of vertigo in chronic cases accompanied by rapid decrease in hearing and with loss of bone conduction, is always a sign of danger indicating the probability of a labyrinthitis, either of the serous or purulent variety.

Instances of primary labyrinthian affections are infrequent. Meniere's disease which we know to be extremely rare is an apoplexy of the semicircular canals. It comes on suddenly in persons hitherto free of ear disease, has vertigo as one of its constant symptoms, and is associated with deafness, tinnitus, nausea, etc., and a brief period of unconsciousness. Toxic agents such as those arising in the course of mumps, typhoid, syphilis, etc., affect the vestibular apparatus primarily, or the auditory nerve, and bring about deafness and vertigo.

The belief is growing that practically all cases of vertigo with the exception of such rare conditions as specific disease affecting the auditory nerve trunk and primary cerebellar disease, as abscess or tumor, are of vestibular origin. Some believe that even those cases which supposedly are due to ocular and kinesthetic impulses, are really of vestibular origin, and that the ocular and kinesthetic impulses are simply the afferent stimuli which create the vestibular impressions. Many other conditions which were formerly described as producing vertigo are now looked upon merely as modifying or exciting factors, that would have no influence upon a normal ear. However, when any part of the middle or internal ear is not in a normal condition, the constant super-excitability of the static labyrinth causes it to respond readily to influences such as diminished or increased labyrinthian pressure and create an attack of vertigo.

Rhese, of Konigsberg, in a recent contribution to this subject, expressed the belief that the centers of the vagus and the vesti-

ular nerves lie close together and that this accounts for the frequency of nausea and vomiting in vestibular dizziness. The giddiness observed in derangement of the stomach or liver and the dizziness occasionally seen in irritation about the larynx, (laryngeal vertigo) are given as further examples. He also believes that a communication exists between the tri-facial and the vestibular centers and cites as evidence the vertigo produced by touching the upper and posterior portions of the ear canal and that observed in cases of hypertrophied turbinates in the nose.

By virtue of the proximity of the vaso-motor center to the vestibular nuclei he accounts for the tendency of individuals with disease of the vascular system accompanied by impairment and retardation of intracranial circulation to have attacks of vertigo.

We are all familiar with cases of endarteritis prior to apoplexy accompanied by ear noises when slight muscular efforts such as straining at stool brings on dizziness. Anything that will bring on cerebral congestion or anemia may bring on an attack, instances of which are seen in the early stage of meningitis or in epilepsy. In speaking of epilepsy, Gowers says that vertigo is the most frequent subjective evidence of an epileptic seizure. In fact vertigo may represent the arm of an epileptic attack. Owing to the features that the epilepsy and Meniere's disease have in common, the sudden onset, brevity of the attack, the tinnitus, frequent nystagmus, period of unconsciousness, etc., makes the diagnosis difficult during an attack. The persistence of tinnitus and deafness after the attack in Meniere's disease differentiates between this disease and epilepsy. Vaso-motor disturbance would also account for the cases of vertigo occurring at the menopause as well as the dizziness occasionally seen in neurasthenia and hysteria.

The vertigo so common in organic brain disease is now also believed to result from an increased intracranial pressure. In brain tumors, abscesses, hemorrhages, and softening of the brain, vertigo is a frequent symptom. There is usually but one attack as the equilibrium is regained by the aid of the other structures concerned in the muscle balance.

Transient attacks of dizziness frequently observed after the use of stimulants such as alcohol, coffee and tobacco, are generally looked upon as the result of vaso-motor disturbance as in the giddiness of uremic poisoning.

The differentiation between the various forms of vertigo is somewhat difficult, but is being simplified more each year. Considering first the vertigo due to affections of the kinesthetic sense organ, we have as diagnostic aid accompanying symptoms indicative of the disease (locomotor)

which brings on the disturbance of the kinesthetic afferent impulses and the disappearance of the vertigo when the patient assumes the recumbent position. The absence of ocular muscle defects and the persistence of the dizziness when the eyes are closed, would exclude ocular causes and the absence of nystagmus, deafness and tinnitus aureum would exclude vestibular causes.

Vertigo due to affections of the visual sense organs is recognized by the diplopia or when absent by muscle tests demonstrating muscle paresis or insufficiencies. Closure of both eyes relieves the symptom, while the position of the patient does not influence it.

Unless coincident ear trouble exists, there is no deafness or tinnitus and as a rule no nystagmus. The rotary vertigo and nystagmus occasionally seen in cases of parietic eye muscles is believed to be a reflex action through Deiter's nuclei.

Labyrinthian vertigo is always of the rotary variety and is accompanied by disturbed equilibrium and frequently by nystagmus, tinnitus and deafness.

It would be too far reaching in a discussion before a body of general practitioners to endeavor to differentiate between the various ear affections, for which the coloric and rotation tests are employed. However, I would call attention to the belief which is now prevalent, that many of the diseased conditions of the internal and middle ear keep the static vestibule in a hypersensitive condition, so that slight stimuli, such as increased blood pressure, toxic influences, etc., may bring on the dizziness. On the other hand it has been pointed out that even where there is a hypersensitive vestibule, vertigo may not be present, due to a compensatory action of the visual and kinesthetic senses and that a diagnosis can be made only by excluding one of these. With a hypersensitive vestibule and no dizziness with the eyes open, the symptoms prevail upon closing the eyes.

Vertigo due to disease of the cerebellum is recognized by other symptoms of this condition, as increased intracranial pressure and possible choked disc, by normal response to coloric ear tests and absence of tinnitus.

In considering the prognosis and treatment of vertigo, I am forced to the admission that a great majority of cases in which the symptom has been of long standing are incurable. The treatment naturally depends upon the underlying affection. Transitory attacks of giddiness due to intestinal disturbances, errors of refraction, etc., where the existing ear conditions are insignificant can be relieved by correcting these conditions. Vertigo due to defects in the ocular muscle balance may be relieved by correcting errors of refraction, by the use of prism or by surgical means.

Aural cases due to impacted cerumen are naturally easily relieved, as are the cases of transitory dizziness due to the accumulation of fluid in the middle ear, result of acute inflammation. The cases of persistent vertigo arising from diseases of the middle ear are relieved with difficulty. Where the closure of the Eustachian tube is a factor opening this by catheterization or the use of bougies may bring about relief or cure. Inflation and exceptionally massage of the ossicles has benefited cases due to the sclerosis of the middle ear. In the cases associated with high arterial tension, attention should naturally be directed towards the relief of this condition. Cases due to serous inflammation of the labyrinth either primary or occurring in the course of a suppurative middle ear inflammation have been reported improved by the administration of pilocarpine in increasing doses (from 5 to 10 drops of a 2 per cent. solution given every day) until a physiological effect is produced and the labyrinthine pressure is reduced. This treatment seems to have had special virtue in cases dependent upon syphilis.

Quinine in 1 grain doses several times a day has been used, at times successfully, to reduce the vestibular irritability, probably by overcoming congestive conditions. Bromides and iodides have also been employed with some favorable reports. Lumbar puncture has been employed by Babinski and others, but has fallen into disfavor, owing to the element of danger in its employment and the uncertainty of its result.

In patients subject to vertigo, excitement of all kinds should be avoided as far as possible. Diet should be simple. Alcoholics, coffee and other stimulants should be prohibited.

In extreme cases where the hearing was almost destroyed and life was made unbearable by the vertigo and tinnitus, Milliken and others have resorted to destruction of the labyrinth.

The suppurative cases of labyrinthian inflammation indicated by symptoms of destruction of the labyrinth are surgical cases and therefore come strictly under the domain of the specialist.

DISCUSSION.

Jno. J. Moren: I see a great many cases of vertigo, from those which result from going to the tops of high buildings in people who are very susceptible to height, down to the tabetic who has a great deal of difficulty in maintaining his equilibrium. Disturbance of equilibrium may come from one of three tracts, the eye, ear, or muscular senses, and in making my diagnosis I try to connect the condition with one of these three tracts.

I have seen a large number of cases of vertigo,

including even Meniere's disease. Last fall a man came to my clinic and spoke to me. I did not remember him, but upon talking to him I learned that he was a man who had been treated at the hospital clinic for a typical Meniere's syndrome, of syphilitic origin. Under the administration of iodides that man got perfectly well, and now has no evidence of vertigo, tinnitus or any other symptom. That is the best result I have had in any case of vertigo of an organic nature.

I have seen a number of cases of vertigo in women, particularly those with gastropnoia, and more especially at the menopause. These must belong to the aural group, resulting from disturbance of the vasomotor system and disturbance of circulation. Oftentimes they complain of tinnitus, but upon improving the circulation and correcting the anemia this usually disappears very promptly.

In regard to anemia, I would like to relate one experience I have had. This patient was a man who had undergone a mastoid operation and thereafter suffered a great deal from dizziness. I found him to be suffering from a secondary anemia, his haemoglobin being something like 60 or 70 per cent. Upon the administration of iron his anemia improved considerably, and he did not suffer so much from dizziness. In that case the anemia evidently played a part in producing the vertigo.

In regard to the differential diagnosis between vertigo and epilepsy, I do not believe this should be difficult if one will remember that epilepsy is a disturbance of consciousness, which may be accompanied by convulsions. We need not necessarily have convulsions to establish the diagnosis of epilepsy, but we must have a disturbance of consciousness. In vertigo the patient very seldom loses consciousness; on the other hand, we never see a case of epilepsy in which the patient does not lose consciousness, although it may be for only a moment. Those cases classed as Meniere's disease also never lose consciousness.

I think the essayist has covered the ground very well. Whenever I see a case of vertigo I usually send the patient to the ear specialist.

S. G. Dabney: It is evident that we are all somewhat at sea with our theories about vertigo, so I am going to leave them out.

I am not certain that we can classify all cases of vertigo under the three heads mentioned by Dr. Moren. It seems to me that we cannot eliminate the vertigo of toxemia, nor that due to arteriosclerosis affecting the nerve centers, even though the eye, ear and muscle centers may all be good. This was brought to my mind by a gentleman whom I saw late Saturday afternoon, who, some three or four weeks ago, was suddenly taken with an acute spell of dizziness and sick stomach, though there was no ringing in the ear. The family physician was sent for and he was

taken to his home. The doctor told him that he had an acute autointoxication. The acute symptoms passed off, but from that time to this he has been suffering with recurrent attacks of mild vertigo. I have seen several cases in old people, past sixty or seventy years of age, whose eyes and ears were in very good condition indeed for that time of life, and whose muscle sense was excellent, but who were subject to attacks of dizziness, due to increased pressure from hardened arteries. I do not see how we can put these cases into any of the three groups mentioned by Dr. Moren.

I think Dr. Pfingst might have emphasized a little more strongly than he did, the relation of diseases of the middle ear to vertigo. I recall one lady who had been under observation for eight or ten years for deafness in both ears. One ear had never suppurated while the other had been subject to suppuration ever since childhood. She came to consult me about her hearing, and complained of spells of dizziness with sick stomach. While she did not lose consciousness she would get so dizzy that she would right frequently fall on the street. She has never fallen since the time of her first visit to me. Upon examination I found cholesteatoma, or cheesy mass packed in the duct, which I removed. Had she lived in the country I would most certainly have recommended radical mastoid operation, but as she was a woman of unusual intelligence and lived in the city, I told her to come to see me from time to time and have her ear cleaned out. Her hearing has improved and she does not have any more dizzy spells. I saw another case in a man who came to me because of the fact that he had dizzy spells and was afraid that people would think he was drunk. His ear was washed out and he got all right.

I was glad to hear Dr. Pfingst say that where there is no tinnitus, no deafness and no nystagmus unless produced by some means such as the rotation test, he does not look upon the case as aural. Like Dr. Pfingst, and opposed to the opinion of some of the great authorities on the subject, I cannot bring myself to believe that in persons who hear well, whose drum membrane is perfect in appearance, and who have no ear symptoms whatever, the trouble is of aural origin. We are not going to help these cases by treatment directed to the ear. I have not used pilocarpin in these cases. Pilocarpin is a great drug to promote absorption, but I have never used it in the ear. It is recommended, not only in suppurating middle ear disease, but in acute labyrinthian troubles, chiefly as a means of producing rapid absorption. I do not think we can accomplish much in internal ear disease. We can however, accomplish a great deal in middle ear disease which is often a cause of vertigo.

Ocular vertigo may be relieved very frequently by means of prisms, as well as by correcting errors of refraction. A few weeks ago I treat-

ed a man for this condition with prisms. He was going to Florida the next day, and I told him I was not certain about the results, but he informed me that they worked all right; that he did not have any more dizziness or double sight.

I cannot get away from the idea that, practically, at least, we have to go outside of the eye, ear and muscle centers to ascertain the cause of vertigo.

C. G. Forsee: I would like to ask Dr. Pfingst to tell us in closing what the cause of vertigo in elderly people usually is. I have seen a good many patients who have what they call "schwindel." Nine out of ten will say that while walking, as long as they look where they are going they are all right, but let their attention be diverted for a moment they experience a sense of dizziness. In only one case of this kind have I been able to find impacted ear-wax as the cause of the trouble.

Herbert Bronner: There is just one point in connection with this subject that I wish to mention. Since the introduction of Salvarsan in the treatment of syphilis, quite a number of cases have been recorded in which nausea, vomiting, loss of hearing and vertigo followed its administration. In the beginning the claim was made, especially by those who were over-enthusiastic in regard to salvarsan, that this group of symptoms was always due to the syphilitic trouble, yet men who treat hundreds of cases of syphilis rarely ever see a case of acute labyrinthitis due to syphilis. In more recent literature it is claimed by some men that these symptoms are probably due to the salvarsan itself. Only recently I read an article by Dr. Ernest Finger, of Vienna, in which he claims to have found nerve lesions in 9 per cent. of cases following the use of salvarsan, which he believes to be due to the salvarsan. I have seen only one case of this kind, in a young woman who was given "606" for the secondary eruption. Eight weeks later she developed a most intense vertigo, accompanied by nausea, vomiting and loss of hearing. I gave her the ordinary mercurial treatment, and in six or eight weeks these symptoms disappeared. Personally, I am inclined to believe that salvarsan is a factor in the development of these intense vertiges. I would like for Dr. Pfingst to speak to this point in his closing remarks.

Gzylord C. Hall: I wish to show a specimen and report a case in connection with this subject. This case illustrates the type of vertigo found in acute infection of the labyrinth, with destruction of the labyrinth and complete loss of hearing.

I saw this man, who is 35 years of age, about a year ago. In the early part of December, 1910, he was seized with a violent attack of vertigo, with pains in the head, nausea and vomiting. He was treated by the family physician for a bilious attack, being compelled to stay in bed, on account of the vertigo, for nearly two weeks. As

long as he was in a recumbent position he was all right, but when he attempted to walk he had a staggering gait. He was sent to me for correction of a possible error of refraction. He was wearing glasses. I accidentally noticed that he had a plug of cotton in his ear, and upon questioning him in regard to this, I learned that at the onset of the attack described, he had had considerable bloody discharge from that ear, and examination showed the canal to be full of a stinging, bloody material. He was totally deaf on that side. The canal was filled with polyps and granulation tissue. I advised radical mastoid operation, as the labyrinthitis had run its course, but he declined an operation. Dr. P'ingst saw the case and also advised radical mastoid operation, which he again refused. However, he was on very regular treatment, and some weeks later he came to my office and said, "Doctor, here is something that came out of my ear," and handed me the specimen which I herewith present. It does not take much stretching of the imagination to say that it is the apex of the cochlea. Evidently the infection had gone through the middle ear and invaded the labyrinth and internal ear, notwithstanding which the man did not develop meningitis and the inflammation finally became encapsulated. I hear about a month ago that he considered himself entirely well. Whether that is true remains to be seen, but the case illustrates how beautifully Nature cures for these cases at times. This man has no vertigo at the present time.

W. T. Bruner: One cause of vertigo that has not been mentioned is sudden rupture of the drum membrane. I saw a case some time ago in a man who, while working at a circular saw, fell forward, barely missing the saw. Examination revealed a ruptured drum membrane. This man had been complaining for several days of a slight attack of gripe. After the rupture of the drum there was a very slight discharge. The vertigo in this case was caused by the sudden rupture of the drum membrane. I report this case because in an attack of vertigo coming on suddenly as in this case, the cause may be overlooked unless the ear is very carefully examined.

F. T. Fort: I am very glad to have heard this paper, but was sorry that some treatment for vertigo was not given. I was called to see a woman to-day and found her almost in an attitude of prayer, and she said that that was the only position she could get in that her head did not swim. I have seen four similar cases in the past few months. Just after Christmas I was called to see a woman whose principal symptom was vertigo. Five or six days later she became unconscious and died two days later. Dr. Frank and Dr. Moren saw her with me. This was probably due to arteriosclerosis, and in this class of cases no form of treatment seems to give good results.

B. F. Zimmerman: I was glad to hear a paper

by a specialist who holds such conservative views as those expressed by Dr. P'ingst. So often there is a tendency to attribute practically everything to the particular group of organs which we may be interested in treating.

I think the point made by Dr. Dahney is well taken. The maintenance of equilibrium is purely reflex. We have three channels by which the afferent impulses enter. These are received by centers, or fibers, which alter or change the impression and send out those pertaining to the movements of the body. Now, we may have disturbance of either of these channels through which the afferent impulses enter, or of the classification and distribution centers. In this way I think many cases of vertigo in old persons, due to lesions in the brain, arteriosclerosis, etc., may be accounted for. Again, toxic conditions may affect the centers which have to do with the altering of impulses and sending them out along other channels.

The ear is probably the most important factor in the production of chronic vertigo. The eye is of less importance. Most of the cases of vertigo that I have seen have been connected with the vagus. Dr. P'ingst has explained the close relationship existing between the vagus center and the vestibular branch of the auditory nerve. The determination of the exact site of the lesion is not easy. Therefore, I think that if the general practitioner, after having exhausted all the ordinary tests, is not satisfied, he should send these cases to the specialist for careful examination of the eyes and ears.

The treatment of chronic vertigo is very unsatisfactory. However, in acute conditions, either of toxic or gastro-intestinal origin, satisfactory results may be obtained from treatment.

Bernard Asman: About a year ago a man, 40 years of age, who had been suffering with vertigo for a number of months, was referred to me, not because of the vertigo but because he was also a sufferer from chronic constipation of a very pronounced type. Upon sigmoidoscopic examination it was at once apparent that he had disease in the sigmoid, probably due to long-continued pressure from hard fecal matter. He presented symptoms of toxemia, and responded nicely to treatment so far as the bowel was concerned. His vertigo had been very severe. He said that he tried to avoid crowds of people, because his vertigo was always worse when in a crowd than at any other time, and that when he came to a crowded street he would wait until but few people were passing before trying to make his way across. Treatment of the chronic constipation was followed by apparent relief of the vertigo. After several weeks he concluded to go to a certain health resort for treatment, and when he had been there a few days I received a letter from a doctor of that place, stating that he had discovered the specific cause of the vertigo, which was due to impacted cerumen, which he

had removed, and said that the vertigo would be permanently relieved. However, a few weeks later the patient came to me and said that the relief had been more imaginary than real and that his vertigo was almost as bad as before. I treated him for chronic constipation for some months longer and as that got better the vertigo almost disappeared. I have not heard from him for two months, but at the last report his condition was very good indeed.

Adolph O. Pfingst, (Closing): I want to apologize for not bringing a more practical subject before the society.

I took up the subject vertigo, because its etiology is rather obscure and its treatment so unsatisfactory. It was in the hope of eliciting an instructive discussion.

I agree with Dr. Dabney that in a certain number of cases, where occlusion of the tube is the cause, we can give them relief by equalizing the pressure in the tympanic cavity. We can also relieve the condition when dependent upon the presence of fluid in the middle ear. Those cases due to impacted cerumen are naturally easiest to relieve.

In the absence of pronounced symptoms denoting ear trouble, I eliminate the eyes first, because we have quite a number of eye conditions that may give rise to vertigo. Failing to find the cause in the eyes, I then make careful examination of the ears, but am free to confess that I am frequently not able to find the cause of the symptoms.

The question in regard to old people has already been answered, since in these patients it is usually due to arteriosclerosis. We are all familiar with this condition, which is considered a forerunner of apoplexy.

As to Dr. Bronner's case, I do not know what could have produced the vertigo. I know that Dr. Beck, of Vienna, who has been very much interested in syphilitic conditions of the ear, reports a number of cases of vertigo cured by the administration of "606", but I do not know of any case where vertigo was produced by it. Although nerve deafness has followed its use,

left, but returned in August, 1911. His family history was very vague, but it appears that his father died of carcinoma of the stomach, although it cannot be said positively that such was the case.

The symptoms this man presented were very similar to those of gastric ulcer. He suffered considerable pain which was relieved by the ingestion of food. He had vomited almost daily during the entire time he had been at the hospital. Examination of the stomach contents showed an almost entire absence of hydrochloric acid. Examination for occult blood in the vomitus or stools was not made. No evidence of induration about the stomach could be detected upon palpation. I advised exploratory operation, believing that we would find a gastric ulcer, and that a gastro-enterostomy would probably have to be done.

When the abdomen was opened and the pylorus exposed it was found that, although flaccid and soft, there was no evidence of constriction. Upon exploration with the finger along the lesser curvature of the stomach, I discovered an indurated mass of considerable size, probably two-thirds of which was behind the gastro-hepatic omentum, the remaining portion presenting on the anterior portion of the stomach. This tumor, when removed, proved to be about the size of half an orange. It was entirely covered by adhesions which had grown out from the omentum upon the posterior surface of the stomach, which made it somewhat difficult to separate the tumor. The tumor was excised by simply making an elliptical incision and cutting it away with scissors. The stomach had been washed out before the operation and was practically entirely empty when the operation was done. A drainage tube was introduced as a matter of precaution, and the sinus remained open for three or four weeks after the operation. It was not a fistula; no stomach contents escaped through it, but simply a secretion which was apparently caused by the cicatrization.

This operation was done on October 30th, since which time the patient has gained eight pounds in weight, and can now eat almost anything he wants. He has not vomited since the operation. I have brought this man here to-night simply as a corroboration of the statement that, from an emaciated and feeble individual prior to the removal of this growth he has regained his strength and appears to be entirely restored to health. Of course, it is still too early to say whether or not he will have a recurrence of this condition. No microscopic examination of the growth has been made. The chief reasons for the diagnosis of malignancy were, the absence of hydrochloric acid in the stomach contents, and the fact that the patient had become greatly emaciated without there being any obstruction

CLINICAL CASES AND SPECIMENS

REPORT OF CASES.

By H. H. GRANT, Louisville.

CASE I.—CARCINOMA OF LESSER CURVATURE OF STOMACH.

(PRESENTATION OF PATIENT AND SPECIMEN.)

The patient I herewith present is a man whom I first saw at the City Hospital, during the service of Dr. J. Rowan Morrison, with the following history: He had been in the City Hospital about a year previous to this time for some trouble referable to his stomach. He remained there for some time and then

of the pyloric orifice. The food he took was simply arrested in the stomach and did not pass out.

CASE II.—PERFORATED GASTRIC ULCER.

I saw this patient in April, 1911, with the following history: The physician who had attended him found him lying upon the floor, screaming with pain. He had been complaining of pain in the region of his gallbladder and liver for some months, but had never had an attack as severe as this one. It required two hypodermics of morphine, at intervals of three hours, to relieve him. The pain was not unlike that attending the passage of a kidney stone. After the second hypodermic he slept all night, and the next day seemed to be in pretty good condition. Following this attack he had no evidence of inflammation or peritonitis, nor any pain beyond a little discomfort and soreness, and was able to go to work. When I saw him about three weeks later, he was again complaining of pain in the region of the gallbladder, and upon examination I found him to be markedly tender all around the gallbladder. I made diagnosis of gallstones, and persuaded him to undergo an operation for their removal. He went to the Infirmary and a day or two later incision was made and the gallbladder exposed, but nothing abnormal was found in it. It was perfectly healthy and contained only a moderate amount of bile. No stones could be detected upon palpation of the gallbladder and it was not opened. Upon exploring a little farther with my finger, I detected a great many adhesions over the anterior surface of the stomach, and upon separating these I found a little opening in the stomach just about large enough to admit a lead pencil. This, to my mind, explained the severe pain the man had suffered. Undoubtedly, the perforation had occurred at the time of this attack. There had probably been only a very small amount of leakage, and the opening had then been covered up by omentum and he had no further trouble. This was probably an old ulcer, which had existed for a long time and had just worked through.

The ulcer was completely excised by an oblique incision, and the stomach walls approximated with three layers of sutures in the same way as the previous case reported.

One interesting feature of the case was the fact that I uncovered the ulcer while separating the adhesions with my finger. If it had happened that I had not seen it, if I had supposed that I was simply breaking up adhesions which we so frequently see in the region of the gallbladder and had not observed the perforation, this man would have had peritonitis and there would have been an unexplained death. Adhesions are frequently

seen after inflammation of the gall-bladder, and in many instances the operator stops short when he finds extensive adhesions, and in breaking these up he may, if he is not very careful, overlook a condition of this sort, and open up communication between the intestine and the stomach, which will result in the death of the patient.

DISCUSSION.

J. Rowan Morrison: I first saw this man in October, 1910, during my service in the City Hospital. At that time he presented some stomach condition, and had emaciated considerably. Vomiting occurred usually at what was considered the height of the digestive process. At that time he suffered a great deal of pain and there was considerable tenderness over a localized area in the epigastrium. Analysis of the stomach contents showed an excess of hydrochloric acid. Oftentimes he would obtain relief upon taking a little milk. In a number of cases of this character I have used orthoform, and if I remember correctly, this man was relieved by orthoform. I considered at that time that he had an ulcer of the stomach, and advised operation which he declined, and left the hospital, but returned about a year later. During the interim he had emaciated a great deal. He gave a history that during this time the vomiting had continued, and that he had suffered considerable pain upon the ingestion of food. This continued after he returned to the hospital. I recall that, on several occasions, I ordered that he be given a meat meal at night, raisins, etc., in order that we might ascertain the next morning, by examination of the stomach contents, whether or not there was much stagnation, but he was not able to do even this because of the pain it caused him. He was given an ordinary water and bread meal, and two hours later he vomited it, and this specimen showed practically no hydrochloric acid, with diminished total acidity. One peculiar thing about this case was the fact that, while there was no stenosis of the pylorus, he had considerable dilatation of the stomach. He could easily take a gallon of water before he complained of pain, and this water would be returned. Also, inflation of the stomach with gas showed it to be greatly dilated. I advised operation, which was accepted, and Dr. Grant has shown you the excellent results obtained from operative procedure in this case. It should have been done a year previously. Whether this growth is a carcinoma or not, I do not know; it looks very much like it. I feel that this was primarily a case of ulcer, and that the carcinoma was engrafted upon it, and that if he had been operated upon when I first saw him, we would have found an ulcer, because the symptoms of acute ulcer were then much more marked than at the time he was operated upon. No test was made for occult blood at the time of operation, but I remember that, on the previous oc-

case, analysis of the stomach contents showed the presence of blood.

J. Garland Sherrill: These cases are exceedingly interesting to me. It would appear, from the additional history given by Dr. Morrison, that the first case reported was on the border line, or in the pre-cancerous stage. It is an unquestionable fact that in the presence of a gastric ulcer we have an increase in HCl, and in the latter stage have an absence of HCl in the stomach contents.

As to the dilatation of the stomach, mentioned by Dr. Morrison, it occurs to me that this may have been the result of spasm of the pylorus caused by irritation of the pylorus produced by the ulcer. In several cases that I have seen, where the ulcer was situated nearer to the cardiac end of the stomach than the pylorus, there was a tendency to vomit food within a very short time after its ingestion; in other words, the motor activity of the stomach was increased, probably due to irritation by the ulcer. Therefore, where the ulcer is situated near the pyloric end of the stomach, the irritation produced thereby would have a tendency to cause pyloric spasm, resulting in dilatation of the stomach.

In regard to the second case, I think the point made by Dr. Grant, that we should make a very careful search for possible points of leakage in all operations in the upper abdomen, is a very valuable one. I can recall two cases in my experience where this point was very forcibly impressed upon me. One was a case of gunshot wound of the abdomen, the bullet just grazing the spleen and, as it proved at postmortem, perforating the stomach. This patient died of peritonitis, and at post mortem a minute opening was found in the cardiac end of the stomach. It was so small that it could hardly be detected, and gas would not escape through it when the stomach was pressed upon.

In another case the patient had evidence of acute peritonitis in the upper abdomen, which I took to be due to a perforation in the upper intestinal tract, possibly the stomach. A search was made for a leak but none could be found. The appendix was examined and found to be perfectly normal. Upon making a second search, however, we discovered a punched-out perforation of the duodenum, about the size of the hole made by a shoemaker's punch, through which fluid was escaping into the abdominal cavity. It was only after the most careful search that we were able to find this opening.

It has been astonishing to me at times to find how large an ulcer of the stomach can exist for a long time without rupture. I remember one case of this kind who went along for two years or more with the usual symptoms of ulcer of the stomach, and finally died from a rupture of the peritoneal coat. Post mortem showed the ulcer to be more than three inches in diameter, while the rupture was less than an inch in diameter.

Evidently this man had been carrying around for several months an ulcer that involved two coats of the stomach, the contents being retained by the peritoneal coat alone.

W. H. Wathen: I doubt if this specimen will prove to be a carcinoma upon pathologic examination, but if it does not, it will be an advantage, because the operation will then have been a timely one and the patient will probably remain well.

A condition of this sort, if not already carcinomatous, will almost certainly become so. It has been shown, by pathologic examination of specimens of cancer of the stomach that have been removed, that from 65 to 70 per cent. of these growths develop in the base of a chronic ulcer. It has also been shown that it is practically impossible to make a diagnosis of cancer of the stomach from physical examination, or from laboratory analyses of the stomach contents. Therefore, operation should always be done in cases where there is a well-marked chronic or enlarged ulcer of the stomach or duodenum. The history in well developed cases is generally so characteristic that diagnosis can be made even without analyses of the stomach contents, but in a city of this size, with the ample facilities at our command, we should confirm our diagnosis by chemical analysis of the stomach contents before operating. However, in suspected carcinoma of the stomach, we should not wait upon chemical analyses of the stomach contents, nor any other form of laboratory work, because, if we depend upon these analyses for our diagnosis, the patient will in all probability get beyond the point where we can give him permanent relief either with or without an operation. Even though the growth itself may be removed, the disease will have progressed so far that it will soon return.

Dr. Grant stated that, in his case, he based the diagnosis of carcinoma upon the fact that one or two examinations of the stomach contents showed an absence of free HCl. We know that nearly all the acids and pepsin are secreted at the pyloric end of the stomach, and as that portion of the stomach was in relatively good condition in this case, there should not have been very much interference with the secretion of HCl.

The second case reported by Dr. Grant appears to have been one of protected perforation of the stomach; where the ulcer gradually necrosed the tissues down to the peritoneum, but before it had completely perforated, plastic exudations were thrown out, attachments to other structures formed, and the patient never had an open perforation. I think Dr. Grant did right, in this case, in separating the adhesions and suturing the stomach. However, I do not think it is necessary, as a rule, even in open perforation of the stomach to trim off the edges, unless they are ragged and rotten. They will grow together just as well if sutured directly through all the tissues down to the mucous membrane; and then throw one layer of celluloid thread or silk over it; I do not think

two layers are necessary unless there is some imperfection in the line of sutures. It is also good surgery to suture the gastro-colic and gastro-hepatic omenta over the closed perforation, and have done this for several years.

Louis Frank: I am inclined to believe, from the size of this tumor and the length of time it had existed, that it is malignant. However, this question can only be determined positively by microscopic examination. I have removed growths of the stomach, believing them to be malignant, when microscopical examination showed that such was not the case; on the other hand I have removed sections of the stomach for what I thought was ulcer, and microscopic examination showed them to be carcinomatous.

These are two very interesting cases. I must differ with the last speaker in one of the statements he made. I believe that any erosion of the stomach may cause pyloric spasm; and thus produce dilatation of the stomach.

In discussing these cases I have only one criticism to offer; that is, in the first case reported, this patient should not have been subjected to excision of the growth, but resection, including the gastro-hepatic and gastro-colic omentums. I do not think we should be satisfied with merely excising the growth in such cases as this, because, if any lasting good is to be obtained, it must be by wide and free resection. In all of these cases, even where there are well developed carcinomatous growths, after removing the cause of the pyloric obstruction, whether it be by gastro-enterostomy or any other operation which permits the escape of food from the stomach into the lower bowel, these patients usually show an increase in weight, extending over a period of several months; in fact, some of them will increase in weight for a considerable time and then die very rapidly, in the course of a week or two, without showing very much loss of weight.

I also differ with the last speaker upon another point. He stated that a large percentage of gastric carcinomata have been found to have been engrafted upon old ulcers, which I believe is a fact that is now generally accepted. Therefore, I believe that we make a radical error if we do not excise these ulcers in the presence of perforation, instead of simply draining and sewing them up. When there is already an opening into the stomach, there is no excuse for not excising the ulcer, and I do not believe we are doing our full duty to our patient if we allow it to remain.

I was very much astonished at the remarks made by two or three of the speakers in connection with the second case reported. It has been my experience and observation that whenever adhesions are found upon any of the abdominal viscera, it has been customary to make a very careful examination for possible perforations and peritoneal denudation after these have been broken up. I think the real lesson to be learned

from this case is that the stomach contents are highly infective. It has been shown that, after starvation for a few days, the empty stomach is practically sterile, but when food is taken the bacterial count rises very high, and, furthermore, that when the process of digestion has been completed and the stomach is again empty, it becomes sterile in a very short time. I think this explains the fact that in many of these cases of gastric ulcer with perforation we find that secondary adhesions have formed, and death does not always follow.

Geo. S. Coons: Referring to the first case reported, I would like to make the history of this patient complete. It seems that he has suffered at the hands of many physicians.

This man was in the hospital during the service of Dr. Underwood, about ten months ago. At that time he was able to eat anything he wanted and was not vomiting at all. Gastric analysis was made, but nothing wrong with his stomach could be noted at that time. He had come to the hospital for a chronic diarrhoea, which had existed for three or four weeks. This was relieved by appropriate remedies, I believe, but he continued to have repeated attacks of high temperature, every few weeks, running up to 104 or 105, which would drop upon the administration of quinin. However, the point I particularly wished to call attention to is the fact that, ten months ago, this man had nothing wrong with his stomach, judging from the gastric analysis and the way he was eating.

H. H. Grant, (Closing): I have nothing further to say. I stated in the report that I thought this was an ulcer before I operated, but that the macroscopical appearance of the growth after it was removed led me to believe that it was malignant. Of course, this cannot be determined positively without a microscopical examination.

SOME UNUSUAL OCULAR CONDITIONS.

By ADOLPH O. PFINGST, Louisville.

A number of unusual cases which have recently come under my observation may, on account of their infrequency, be of some general interest. Believing that a detailed description would be of interest only to men doing special work I will endeavor to make my report as brief as possible.

PHTHIRIASIS PALPEBRARUM.

A case of phthiriasis palpebrarum or the presence of ordinary crab lice (*pediculus pubis*) on the eye lashes. I saw this recently in a child of four, this being the sixth time that I have observed the condition in my private practice. Strange to say the children in all but one instance were of good family, and apparently cleanly. The condition is characterized by itching and redness of the eye lids, and resembles marginal blepharitis, and in

consequence is easily taken for this disease. While the pediculus pubis like the other forms of pediculi, usually confines itself to its particular territory.—I feel sure that it occurs more frequently in the eye lashes than is generally recognized. It is a strange fact that this parasite does not invade the hair of the head.

Attention is called to the condition of the eye by the steel gray deposit at the base of the lashes, due to the presence of the ova of the louse. Close examination usually reveals the presence of one or more of the grown parasites clinging to lashes. Penciling the edges of the lids with a bichloride of mercury solution 1-500, or the application of mercurial ointment usually relieves the conditions promptly.

MUMPS OR ACUTE INFLAMMATION OF THE LACHRYMAL GLAND.

A case of mumps or acute inflammation of the lachrymal gland. This occurred in a healthy young man with no history to indicate its etiology. The upper lid of the left eye near the outer canthus was very red and swollen causing the lid to droop and entirely close the palpebral fissure.

The region of the lachrymal gland was very tender to the touch. The inflammation subsided with no other treatment than the application of heat, the lid returning to normal in about three weeks.



ARCNESS OF LEFT LACHRYMAL GLAND

Non-suppurative inflammation of the lachrymal gland is rather an unusual condition. I have seen but one other case of it. The

condition is analogous to parotiditis (mumps) and in fact is said at times to occur coincident with it. Its etiology is obscure.

While most cases terminate in perfect recovery, permanent enlargement of the gland has resulted while some have gone on to suppuration.

Several years ago I had occasion to see an abscess of the gland at the City Hospital, pictures of which I will exhibit.

SPONTANEOUS PROLAPSE OF THE LACHRYMAL GLAND.

Another infrequent condition of the lachrymal gland of which I saw a case recently is its spontaneous prolapse. It occurs usually as a result of inflammatory conditions of the conjunctiva or cornea and with the upper lid everted is recognized as a soft movable mass under the lid near the outer canthus.

CONGENITAL PARTIAL ANKYLOBLEPHARON.

I recently had a case of this kind brought to me from Shepherdsville for operation in which the baby's lids on both sides were adhered to each other by their edges, leaving a very small palpebral slit, through which the cornea was barely visible. The lids were separated with scissors and conjunctiva and the skin of the lids sutured.

COMPLETE SYMBLEPHARON.

A case of complete symblepharon in an adult following burn with molten lead.

Partial cohesion of the palpebral and bulbar conjunctiva following injuries or ulceration are not infrequent. Complete adhesion, as far back as the cul-de-sac and covering the cornea is uncommon.

I am reporting a case of this kind more especially to point out the hopelessness of such cases.

Partial symblepharon is easily treated surgically by severing the adhesions and covering the exposed surfaces with conjunctival flaps. However, where the adhesion includes the cul-de-sac, it is impossible to prevent reunion as two opposing raw surfaces which meet at an acute angle, invariably close again from the angle outward until the entire surfaces are again united. In the case which I am presenting to-night, I was urged by the patient against my better judgment to give him the benefit of a chance. With the exception of a pin-point opening at the nasal end the lids were grown together and to the eye ball.

By throwing light against his lids he could readily tell light from darkness and recognized the direction of the light, and it seemed that an operation must help him.

I performed the operation of Harlan. The lids were separated from each other and the lower lid severed as well as possible from the

eye ball. A flap was then made about 3-8 in. below the margin of the lid and turned upwards through an incision just above and parallel to the base of the flap bringing its raw surface against the inner surface of the lid. The upper lid was to be operated on later if the lower proved successful. As is the history of all similar cases adhesion between the eyeball and lid took place from behind, crowding the transplanted skin forward and finally closing up the fissure again.

COMPLETE OPHTHALMOPLÉGIA EXTERNA.

About six weeks ago a man of 24 years, in good health and giving a negative history of lues, presented himself with complete bilateral ptosis and paralysis of all of the extrinsic muscles of the eye of four years' standing. Both eyes were directed forward and there was total inability to rotate the eye balls in any direction. The intrinsic muscles were not involved as was evidenced by the nativity of the pupils and the ability to accommodate.

OPHTHALMOPLÉGIA INTERNA.

About a week after I saw this case, a man 23 years of age presented himself with an ophthalmoplegia interna. The pupil of one eye was wide, not responsive to light or convergence and inability to see close objects (loss of accommodation) while the extrinsic muscles were not involved.

Ophthalmoplegias are nearly always central in origin and are believed to be due almost without exception to changes resulting from inherited syphilis. Neither the internal or the external variety is common, although of the two the internal is the most frequent. It occurs practically always as a monolateral condition. Total ophthalmoplegia in which all of the extrinsic and intrinsic muscles are paralyzed occurs but is very infrequent. Grunert, of Bremen, has recently reported seven cases of ophthalmoplegia interna due to ethmoid disease which were cured by opening up the ethmoid labyrinth. He believes that in these cases the short root of the ciliary ganglion is directly involved in the inflammatory process.

In addition to these cases I will merely mention three other rather infrequent conditions which I saw at my office in the last weeks. *Congenital chromatic asymmetry* where one iris is brown the other blue, and a case of *congenital coloboma* of the iris or fissure of the iris resembling an iris after an iridectomy. Both of these conditions are not infrequent and have probably been seen by most of the members.

The third case was one of *argyrosis*, or discoloration of the conjunctiva following the prolonged use of argyrol. While I have in mind some other unusual eye conditions and

could find more by referring to my records, I have endeavored to confine myself to cases of recent observation.

DISCUSSION.

W. A. Jenkins: Just a word in regard to the first case reported. I was recently told by a physician whom I have known for a number of years that crab lice are very common among the poorer classes of Mexican children, usually being found in the eye-lashes and around the margin of the hair. Some time ago, in a local charitable institution, a nurse called my attention to the fact that one of the new entrants had a new kind of lice, and upon examination I found the head for a margin of half an inch, all around the hair line, literally alive with these lice.

Siegel C. Frankel: Just a few words in regard to the first case reported. In my work as inspector of schools, I have run across at least six cases of this condition. I am satisfied that I saw several cases last year, which I was unable to recognize until I found the live bugs on the lids. I noticed that these pediculi have a different color from that of the head lice, the former being dark-brown in color while the latter have a grayish appearance. I agree with Dr. Pfingst that they are found principally among children of the better class. All the cases I have seen were in this class of children. One was the grandson of a physician, to whom I wrote several letters calling attention to the condition, which he was unable to recognize until at last I was able to point out what actually existed.

S. G. Dabney: It is not very rare to find persons with differently colored eyes. It was said of one of the greatest of English actresses that she had one eye for comedy and the other for tragedy; one was blue and the other brown.

I have never seen a case of total symblepharon, and I wish Dr. Pfingst would tell us the exact condition of the cornea in his case. Did I understand him to say that the lids were adherent to the cornea?

I have had one successful result in a condition in which we are so often unsuccessful; namely, sarcoma of the orbit. About five years ago I removed the eye and orbital contents of a young lady for sarcoma back of the eye-ball, and, unusual to say, she recovered. I do not think there could have been any mistake in diagnosis, as one of my colleagues here concurred in the diagnosis and it was confirmed by two microscopic examinations. She came back last summer, very anxious to have a glass eye, which I did not believe would be satisfactory. However, I did a skin grafting operation and, following the advice given by one operator, I fastened the skin over the glass eye and put it in the socket. It took very well. The graft remained and the woman is wearing the glass eye tolerably well. Three months later I wrote to her doctor and asked about the result, and he replied that it was very

satisfactory and that the young lady had married. The trouble in these cases is from subsequent contraction, and I would not be surprised if, in the course of time, the result is not so good as it seems to have been in the first three months.

A word about the case of ophthalmoplegia externa. Dr. Pfingst said that his patient could not move the eye in any direction, but I fancy that he could have moved it downward and outward had the attempt been made. Otherwise it would mean that both the sixth and third nerves were involved, which is extremely rare. On the other hand, it is a familiar picture to see patients with dilated pupil, loss of accommodation, lid droop, and immobility of the eye, except that because the external rectus is supplied by the sixth nerve, the patient can turn the eye downward and outward. The vast majority of these cases are syphilitic in origin, though perhaps not invariably so.

It seems an odd thing to say that complete paralysis of the nerve offers a more favorable prognosis than some of its fibres only, but it is true in paralysis of the motor oculi because paralysis of the whole nerve is generally due to pressure along its course, while paralysis of some fibres only as, for instance, those which contract the pupil, are apt to be nucleated. When we see a patient with a dilated pupil which does not respond to light, we are apt to think that there is some disturbance in that particular bundle of fibres supplying the sphincter of the iris, and I do not recall having seen a case that got well. On the other hand, in the familiar picture of drooped lid, loss of accommodation, eye-ball turned slightly downward and outward, with inability to turn it in any other direction, these cases generally recover. I think it is very unusual, however, to find both the sixth and third nerves involved and that is the reason I believe that, if Dr. Pfingst's patient had attempted to move the eye downward and outward, he could have done so.

Adolph O. Pfingst, (Closing): Just a word in reply to Dr. Dahney. This case was very unusual. I am quite sure that there was involvement of the superior oblique and external rectus, as well as the muscles supplied by the third nerve, as there was absolute inability to turn the eye in any direction.

There was no involvement of the muscles of accommodation, the patient being able to read fine print. The pupil was of normal size. The patient gave a negative specific history.

In regard to Dr. Frankel's remarks, I will say that the crab louse differs in shape as well as in size from the head louse. It is smaller than the head louse and is rather round, or disc-like, while the head louse is oval.

ATROPHIC CIRRHOSIS OF LIVER.

(REPORT OF CASES.)

By J. ALLEN KIRK, Louisville.

CASE I.

G. K., white; age 44, admitted to the hospital on October 10th, 1911.

Past Medical History: Had rheumatism; had malaria five years previous to admission to the hospital.

Personal History: Denied specific disease; had drunk steadily for years, taking about three drinks a day at regular intervals, usually before meals; mostly alcoholic beverages.

Present disease began five weeks previous to admission to hospital, with pain in neck; pain jumped about over the body. Had had swelling of the foot. Vomited in the morning; had vomited blood on three occasions. Patient much emaciated, hepatic facies, was jaundiced; abdomen much distended. The superficial veins over thorax and abdomen were much distended. No caput madusa. Tongue coated; no temperature; pulse good. Some dyspnea. Liver and spleen could not be palpated on account of ascites. After some of the fluid had been withdrawn, liver was found slightly diminished in size, toward the median line. Spleen enlarged.

TREATMENT.

Patient put at rest, light diet, kidneys and bowels kept freely active. After a few days, paracentesis abdominis was performed, and two and one-half gallons of fluid withdrawn. Fluid soon returned and the patient was again tapped, and about two gallons of fluid withdrawn. Patient was doing nicely, but became dissatisfied and left the hospital about November 1st, against our advice. Patient returned to hospital November 20th, deeply jaundiced, ascites much increased. Oedema of feet, legs and scrotum had developed. The ascites was so great that it displaced the heart upward, apex beat being in fourth interspace. Marked dyspnea; pulse very rapid and weak.

TREATMENT.

Paracentesis abdominis was performed and about three gallons of fluid withdrawn. Eliminatives and supportive treatment again employed, and within twenty-four hours after tapping, there was a marked change of oedema of feet and legs, and most all being out of scrotum. Patient improved right along, and on December 19th was discharged from the hospital much improved. Omentopexy was advised but patient refused.

CASE II.

S. J., colored; age 39; admitted to hospital January 17th, 1912. Past medical history negative.

Personal History: Did not know whether he had had syphilis or not; most likely he had. Had been a steady drinker for about seventeen years; drank mostly a cheap grade of whiskey.

Present disease began four weeks previous to admission with dyspnea; abdomen began to swell gradually; later oedema of the feet developed. Patient much emaciated; had hepatic facies; apex heart displaced downward and outward; no enlarged superficial veins perceptible. Pulse rapid and weak; respiration rapid and jerky. There were moist rales over both lungs. Dullness over right apex; accentuated second aortic and pulmonary sounds. After fluid was removed, liver was found much decreased in size; spleen enlarged. Temperature ranged from 96.2 to 100.8; subnormal temperature in the morning. Patient never vomited or passed any blood by bowel. Sputum was examined twice for tuberculosis, with negative results.

TREATMENT.

Eliminative and supportive. Paracentesis abdominis was performed on January 23rd, and two and one-half gallons of fluid withdrawn. Patient showed very little improvement and died January 31st. No post-mortem was made.

DISCUSSION.

J. Rowan Morrison: I saw this man in the ward during my service at the City Hospital. He presented the ordinary type of cirrhotic liver, diminished in size, and had gone on to the stage of emaciation and ascites, and had lost a great deal of weight and strength.

The most important thing I noted in connection with this man was that, at the third tapping, three gallons of fluid were withdrawn. He had a colon very greatly distended with gas, causing considerable displacement of the heart upward. He was cyanotic and had oedema of the feet and scrotum, which was not of the hepatic type, but seemed to be due to interference with the heart, showing very beautifully what possibly occurs from displacement of the heart by gas. This almost led to a fatal result, because on the day the man was tapped he was in very bad condition, but upon removal of the fluid he promptly recovered from the symptoms referable to the heart. I think this distension of the colon with gas, displacing the heart and impeding the circulation, occurs in many instances, and is often the real cause of death from what is termed "acute indigestion."

There is still another interesting feature of this case. This man was tapped only three times, the last time in December, and improved considerably while he was in the hospital. Then he left the hospital and has resumed work. He does hard work, and he tells me that he has not

had very much return of the ascites. That is the history in many of these cases.

As to treatment, I think much can be accomplished by taking off the fluid in the proper way, using a medium size trocar; also, by the administration of iodid of potassium in small doses, over a considerable period of time. Dieulafoy says that he gives only three grains a day, but this should be kept up for a long time, a year or more, keeping the patient on a low diet and excluding alcohol if possible.

I advised omentopexy in this case. It will be recalled that on one occasion Dr. Grant exhibited to this society a patient in whom omentopexy seemed to have done a great deal of good. Upon looking up the subject it seems that the authorities are in doubt as to whether or not omentopexy is advisable, because in many instances where it has been done the patients did not get any more than the temporary relief which may be obtained from tapping, and the trouble soon returned. In many cases, however, they probably do get more and longer relief from omentopexy than can be obtained from repeated tapings.

W. C. Dugan: I do not believe this patient belongs to the class of cases in which omentopexy is advisable; it is in hypertrophic and not atrophic cirrhosis that the best results are obtained from this operation. The operation that I should think would offer the best results in atrophic cirrhosis of the liver, would be subcutaneous drainage, either by means of a glass tube placed in the peritoneal cavity (which it is claimed can now be done), or by lymphangioplasty as advocated by Sampson Handley, consisting of the introduction of silk threads intended to serve as artificial lymphatics, thus establishing drainage for the fluid, just as we establish drainage in hydrocephalus. I think this would be the operation in these cases rather than omentopexy.

Siegel C. Frankel: I saw this patient several times before he was tapped. At that time the oedema and ascites seemed to me to be due to cardiac trouble rather than the liver condition. He was oedematous all over the body, including legs, scrotum, etc., and had decided dyspnea. My prognosis at that time would have been very grave. This is the first time I have seen the man since then and I am rather surprised at the improvement that has taken place.

J. Garland Sherrill: I cannot agree with Dr. Dugan in the statement that omentopexy should not be done in atrophic cirrhosis. The object of the operation is to re-establish circulation and relieve the congestion resulting from the contraction of the liver. Therefore, in my opinion, it would be indicated in atrophic cirrhosis. I have performed omentopexy in only two cases in both of which there was improvement. One is still living and the other died later from a con-

tinuation of the cirrhosis. Recent reports along this line are rather more favorable. At a recent meeting of the Southern Surgical and Gynecological Association, Dr. Grant read a paper on this subject, and in the discussion which followed, the tendency was to advocate this operation in cases of cirrhosis.

Another method might be considered here. It has been proposed to unite the portal vein with the vena cava as a means of relieving the compressed vessels and carrying the blood back to the heart. This, however, is an operation which can only be undertaken by men who have had a good deal of experience with it experimentally.

J. Allen Kirk, (Closing): One thing that made me think this man's condition was not in any way connected with the heart was the fact that, after the third tapping, there was marked improvement in twenty-four hours. As a rule we do not see such prompt improvement in such conditions due to the heart.

INTRATHORACIC GOITER.

(REPORT OF CASE AND EXHIBITION OF SPECIMEN.)

By JNO. R. WATHEN, Louisville.

These three thyroid lobes were removed from a woman, Mrs. D., aged 35, who presented herself with symptoms of exophthalmic goiter, with a pulse of 140, eye symptoms, and besides the nervous condition, a decided sensation of choking or smothering on slight exertion.

The tumor, upon inspection, appeared as a mass about the size of a hen's egg, in the middle line and low down, just above the sternal notch; also an enlargement on the left side, high up.

At operation, when the goiter was exposed, the central mass was connected to, or continued as a large mass dipping down behind the sternum into the thorax. The lobe on the right side above the sternal notch was removed without difficulty, and when it was separated from its continuation into the chest, the latter part retracted deep down into the thorax. With much difficulty this was removed.

Intrathoracic goiters are of rare occurrence, and Mayo reports only 18 cases operated upon. Kocher says they are rare but does not give the relative figures. All agree that they are the most serious cases for operation and present problems hard to deal with. The tumor is delivered with much difficulty and should be enucleated rapidly, leaving the lowest portion attached to the capsule in order to bring this capsule up into the wound to obliterate the large cavity left below after the goiter is removed.

Mayo writes: "In our experience, great hemorrhage followed delivery of the goiter in all but one case. This hemorrhage was venous and was checked immediately by packing four large abdominal sponges within the chest, which were left in place four days, then removed without trouble, and a lighter pack substituted."

The patient from whom these specimens were removed has made an uneventful recovery and is now ready to leave the Infirmary.

DISCUSSION.

W. C. Dugan: I think the point the doctor made about leaving part of the tumor attached to the capsule is a very important one. If the capsule should be dissected loose and allowed to drop back into the chest it would be a very difficult matter to recover it and arrest the hemorrhage. Dealing with it as he did made the operation very much easier and enabled him to deal with the hemorrhage very much better than he could otherwise have done.

MEDICAL PROGRESS

DEPARTMENT OF OPHTHALMOLOGY AND OTOLARYNGOLOGY.

By GAYLORD C. HALL, Louisville.

AUTO-TOXAEMIA IN OPHTHALMIC SURGERY.

In a paper read before the American Academy of Ophthalmology, 1911, Dr. S. D. Risley discusses several features which make up a large proportion of complications and failures in this class of work. He calls attention in particular to the dangers of intestinal toxæmia, diseased nasal cavities and diseased teeth as responsible for the toxins which give rise to such diseases of the ciliary body and iris that serve as later complications in otherwise successfully performed operations, particularly in the operation for cataract.

Referring to the unsanitary condition in hospital patients as the probable cause of such diseases in the first place he says, "The impaired health, high tension pulse, the traces of albumin and the presence of indican in a urine of high specific gravity and a blood pressure often as high as 200 mm. of mercury are not promising conditions under which to undertake so serious an operation as the extraction of a hard cataract.

The attacks of iritis or irido-cyclitis occurring on the fifth to the seventh day, sometimes acute, more frequently painless, but attended by increasing redness, photophobia, tenderness of the ball and prolonged convalescence usually belong to this group of patients. There is a gluing of the iris to the capsule.

which becomes daily more tough and opaque; and even after successful secondaries there is impaired acuity of vision, due to infiltration of the vitreous or even to streamers of lymph stretching across the vitreous chamber. In bad cases, we are compelled to witness recurring hemorrhage into the anterior chamber, the steadily contracting pupil, which is drawn upward, and final failure to secure useful vision.

Their analogue in private practice is furnished by women after middle life who have passed through the stress of the social whirl; or by men worn to the breaking point by the anxieties and responsibilities of great business enterprises or by the physiologic vices inseparable from dissolute living.

What has been said regarding the history and essential nature of a large group of cataract patients is also true for the patients afflicted with inflammatory glaucoma. I have with many others, written so frequently of this as a local manifestation of cardio-vascular disease, that it seems unnecessary to dwell upon it in the brief time allotted to the presentation of papers. But increasing experience serves only to emphasize the gravity of this disease. In its worse phase, that of hemorrhagic glaucoma, we all know that its hopelessness grows out of the fact that the arterial disease is already so far advanced as to promise a speedily fatal result."

The conclusions are in accord with the investigations of DeSchweinitz regarding the production of choroiditis from absorption from the intestinal tract and it is interesting to note that at the same meeting Dr. Reber read a paper on the probable relation of uveitis to latent nasal obstruction in which he says, "There are a few very significant facts in relation to uveitis that are seldom touched on in the literature, namely: 1. It is a disease that seldom occurs in children.

"2. It is most frequent in young adults and fairly common in older subjects, especially those of advanced age, when it pursues a quite low form with a few spots on the posterior corneal surface and some vitreous opacities.

"3. It is more frequently monocular than binocular. Weeks is also of this opinion, and it is a fact that should give us pause; the more so as we have come to believe in a general way that many distinctly one-sided ocular affections are very much more likely to be of focal than general origin.

"4. There seems to be little tendency for the second eye to become involved.

"5. These forms of uveitis due to general constitutional disorders usually appear in both eyes at about the same time; and as a rule give rather frank evidence of the etiology of the ocular disease.

"6. The unilateral cases are commonly of very obscure origin unless one follows up the possible nasal or sinus origin of the trouble. In this event they are very likely to find that a seemingly idiopathic uveitis proves to be plainly of focal origin."

The work of these investigators serves to establish that there is an increasing tendency to go beyond the limits of the eye itself for the explanation and solution of a number of diseases which have heretofore been very difficult to deal with, particularly from the fact that we were not familiar with their etiology. This should therefore serve as a reminder to those of us engaged in special work that we should not attempt to restrict either our investigations or treatment within too narrow limits.

II.

COMMON COLDS.

Progressive Medicine, for March, 1912, reviews some very interesting observations in regard to common colds.

"Common Colds. An investigation of the prevalence of common colds and the economic loss due to them was made by James A. Honeij, and his results are very interesting. Fifteen thousand cards of investigation were sent out, and resulted in 1633 cases of colds fit for careful study, although the total number of individuals with colds was 3,845, or, including the persons in the family affected with colds, 6591. The summary is as follows: (1) Over half the population have colds during the course of the six months from December to June. (2) One-fifth of the population are absent from work on account of colds. (3) The average loss of time for 568 individuals was six days per six months. (4) The average loss of money was \$21.00 per six months, not including individual expenditures for medical treatment, etc. (5) The total loss in six months' time was \$12,105.37 for 568 individuals. (6) In addition to this there is a loss of energy equivalent to three dollars per six months per person. (7) The most common cold is the "head cold." (8) Most colds occur in the month of March. (9) Individuals from thirty to forty years of age suffer most from colds. Department store employees suffer most in proportion. Half of them lose time on account of colds. The conclusions drawn from this investigation are: (1) Preventive methods are essential in dealing with common colds. Better working conditions, pure air, even temperature, proper ventilation, and the proper amount of humidity are important factors. Nourishment, general hygiene, and proper clothing are necessary precautions as in guarding against all other diseases. (2) After the onset of a cold, proper diagnosis is essential to ascertain whether the

cold is infectious. (3) Individuals suffering from infectious colds should be isolated."

In the same journal an article by Macfie on Draughts and Colds states that while they play an auxiliary part in the production of colds they are easily deprived of the danger and should be favored rather than feared. He concludes "The man who endeavors to avoid cold by avoiding all draughts will not only catch more than his share of colds but will possess less than his share of health and vigor. Regarding the treatment, Hexamethylenamin has been recommended by several authorities but in doses which seem to the writer heavier than can be borne by the ordinary patient with comfort. Fifteen grains four times a day is recommended followed by copious water drinking to lessen the possibility of bladder irritation. The writer has seen five grains four times a day produce such irritation and feels that the dose should be adapted to the sensitiveness of the patient. This remedy is of undoubted benefit also in suppurative otitis media.

III.

SINUS DISEASES.

Investigation of the diseases of the various sinuses continues to invite discussion. There is now known two distinct kinds of ethmoidal diseases, one with the discharge of pus accompanied by polyp formation; the other a non-suppurative form. One of the most interesting symptoms of the sinus diseases are those relating to the eye. The researches of Onodi and Loeb have shown the intimate relationship that exists between the sphenoidal sinus, posterior ethmoidal cells and the optic nerve. It is therefore not surprising that suppuration within these cavities should give rise to ocular symptoms. The most common symptoms are the enlargement of the blind spot and central and paracentral scotomata. The eye is affected either directly through the bone, or by the blood, or lymph streams.

Kyle, writing in *Progressive Medicine*, classifies the optical signs and symptoms as follows:

"Frontal Sinusitis: Periostitis and orbital cellulitis, exophthalmos, diplopia, hyperemia of the optic disk, haziness of the vitreous.

"Maxillary Sinusitis: Blepharospasm, lachrymation, purulent dacryocystitis, edema of the retrobulbar tissue, exophthalmos, hyperemia of the optic disk, visual disturbance, transient amblyopia, amaurosis.

Ethmoiditis: Mucocoele, purulent dacryocystitis, diplopia, exophthalmos, amaurosis.

"Sphenoidal Sinusitis: Paralysis of the third nerve, of the sixth nerve, and of the second division of the fifth nerve; papillitis, retrobulbar neuritis, optic atrophy.

"The explanation of amblyopia and amaurosis is to be sought in the anatomical surroundings of the optic nerve while in the optic foramen, where pressure may be exerted on the nerve by distention of the veins surrounding it, or by sympathetic edema into the nerve and nerve sheath.

"Visual disturbance due to nasal disease is frequently unilateral, and though it is usual for the homolateral nerve to be affected, occasionally it is the contralateral alone.

"Chemosis, papilledema, proptosis, paralysis of the ocular muscles, and redness of the eye-lids form the important ocular signs of that very grave disease cavernous sinus thrombosis, often a result of suppuration in the sphenoidal sinus or in the posterior ethmoidal cell.

"Occasionally disease in a nasal accessory sinus, while giving rise to reflex symptoms, does not exhibit any very definite sign of its existence, so that attention not being directed to the origin of the mischief, it is at first apt to be overlooked."

IV.

ON THE NATURE, CAUSE AND RELIEF OF GLAUCOMA.

Under the above title Martin H. Fischer read a paper before the American Academy of Ophthalmology. He shows that experimental glaucoma can be produced in an eye in the entire absence of any circulation and says, "We are at the same time led to conclude that the cause of glaucoma may well reside in the tissues of the eye itself, and that it becomes glaucomatous not because fluid is pressed into it, but because through changes in it, it absorbs an increased amount of water. Our experiments further show that this increased absorption of water by the eye is dependent upon the colloids in the eye, for not only is the eye built up of a series of different colloids (sclera, cornea, lens, vitreous humor), but the same conditions which govern the absorption of water by fibrin also govern the absorption of water by the eye. On the ground of these experiments we can, therefore, no longer insist that an eye becomes glaucomatous because water is forced into it. It does this because chemical changes occur within the eye which increase the affinity of the ocular colloids for water so that these are enabled to absorb water from any available source. In the experiments with enucleated eyes this source is the solution into which the eye has been dropped; in the body it is the liquids flowing about or through the eye."

Regarding the relief for such conditions he says, "Our results may be summed up as follows:

"The use of subconjunctival injections of

a one-eighth to one-sixth molecular (4.05 to 5.41 per cent. solution of chemically pure sodium citrate in clinical cases of glaucoma is entirely harmless and is always followed by a prompt fall in ocular tension. The fall in tension is appreciable within ten minutes after the injection and may be so great as to make the eye have a subnormal tension. The effect of such a subconjunctival injection lasts for from three to six days (or even more) and is accompanied by a relief of all the subjective symptoms of glaucoma (except, of course, the blindness due to structural changes).

"It must be clearly understood that when such subconjunctival sodium citrate solutions bring about a diminution in the tension of a glaucomatous eye, this does not constitute a 'cure' for glaucoma. As a cure of glaucoma we could only consider a removal of that condition or conditions which are responsible for the development of the substances which increase the affinity of the ocular colloids for water.

"Writers on ophthalmology are in the habit of laying great stress on the obliteration of the filtration angle. This is frequently said to be the cause of glaucoma. It is much more probably a consequence as evidenced by the fact that enucleated eyes rendered artificially glaucomatous by being placed in acid solutions show the same progressive decreases in the depth of the anterior chamber that is noted in clinical cases."

"Under systemic treatment he says, "It is not enough, after having reduced the tension in a glaucomatous eye by the subconjunctival injections of sodium citrate to let the matter rest. Every effort must be made to discover the various factors that are responsible for the chemical changes (acid production) that lead to the increased swelling of the ocular colloids."

The article should be read in its entirety.

COUNTY SOCIETY REPORTS

Barren—The Barren County Medical Society met in regular session in Glasgow, April 9th, 1912, with the following members in attendance: Jordan, Leech, Britt, Smock, Plumlee, Ferguson, Turner, Botts, Taylor, Froedge, Honaker, Siddens, Miller and Porter.

Order was called by President Smock, who expressed the pleasure it gave him to see so many genial faces after the long cold winter and late muddy spring.

The minutes of last meeting were read and approved.

Jno. W. Acton was received by card of transfer from the Lincoln County Medical Society.

The society next considered the application for membership of Dr. Christopher T. Grinstead pre-

sented last meeting. Motion unanimously carried that he be admitted to membership.

Clinical cases and reports were called for.

S. J. Smock presented a child three years old, who for the last year has suffered from what he considers epileptoid attacks coming on at irregular intervals, being accompanied by tonic contraction of the muscles of the back and upper extremities. The seizures are accompanied by some mental confusion, though consciousness and memory are retained. There are large purple spots over the cheeks, otherwise nothing notable in the child's appearance. The case was discussed by several members, but no diagnosis was agreed on. Calomel and Santonine were advised.

J. S. Leech related some of his recent experience with rheumatism, which was followed by a general discussion of this troublesome disease, many interesting points being brought out.

J. C. Jordan gave a short talk on our Vital Statistics law. The discussion which followed indicated that the law is not popular with the laity, though approved by the medical profession of this county.

Motion carried that our annual social meeting be held here on Tuesday, July 9th, and that a committee be appointed to make suitable arrangements for same, and report at next meeting. T. F. Miller, R. H. Porter and J. M. Taylor composed said committee.

Following is the program for our next meeting:

1. Clinics and reports of cases.
2. Paper on "Constipation" by W. T. Britt; discussion by Acton and others.
3. Paper on "Hic-Colitis," by A. T. Botts; Miller to lead in a general discussion.

Adjourned to meet in Glasgow, May 14th, 1912, at 10 o'clock a. m.

J. M. TAYLOR, Secretary.

Bell—The Bell County Medical Society met in Middlesboro, April 12th, at the office of C. K. Broshear, with President J. Harry Henderson presiding. The following members responded to the roll call: Drs. Hendren, Evans, Haston, Foley, Wilson, Nickols, Schultz, Coombs, Giammi, Clayton, Chance, Edmonds, Robertson, Gibson and Tinsley.

The minutes of the previous meeting were read and approved.

The committee appointed to confer with the fiscal court, reported favorable progress, and thought the prospect good for a nice appropriation for the purpose of furthering sanitary work in the county, but asked for further time for a final report.

C. F. Clayton presented a very interesting clinic, which was regarded by most of those who discussed it as one of the forms of eczema.

C. K. Broshear was compelled to be absent from the meeting, but had an interesting clinical case presented by **L. L. Robertson**. It was conceded to

be a case of urethral chancre in patient 65 years of age.

T. T. Gibson asked for reciprocity with Virginia, for the purpose of doing some special work just across the Kentucky and Virginia line, which was cheerfully granted.

Mason Coombs presented the application of H. G. Petrie for membership, which was referred to the board of censors.

It was moved and seconded that the chair appoint a committee to prepare a program, and special meeting for next month, with power to prepare luncheon at the expense of the society. Drs. Foley, Robertson, Schmitz and Nuckols were appointed, with chairman Hendren *ex officio* member.

Edward Wilson read a paper on "Eclampsia" which was very timely.

Mason Coombs gave a practical paper on "Clinical Microscopy." Both papers were much enjoyed by the members of the society.

There being no further business the society adjourned to meet in Pineville, May 10th, 1912.

O. P. NUCKOLS, Secretary.

Harlan—On April 10th, Dr. J. S. Loeck, Conncilor for this district, was with us and gave a very instructive and entertaining lecture in the court house, at Harlan, to a large and appreciative audience, his subject being "Hookworm," at the close of which he organized the Harlan County Medical Society with the following doctors present: G. P. Bailey, W. S. Howard, J. L. Bieroch, Wm. Martin, W. P. Coward and Arthur Jenkins. The following officers were elected: President, G. P. Bailey; Vice President, J. L. Bieroch; Secretary-Treasurer, Arthur Jenkins. Meetings are to be held on the first Tuesday of each month.

ARTHUR JENKINS, Secretary.

Russell—The Russell County Medical Society met at Jamesdown at the Holt Hotel, on the 20th of April, 1912, with the following members present: L. D. Hammond, Scholl, Flanagan, Rowe, Trater, and Blair. The meeting was called to order by President L. D. Hammond. Minutes of the previous meeting were read and approved.

On motion and second J. S. Rowe was elected Censor for the present year, instead of J. D. Combest.

J. B. Tarter and J. M. Blair were appointed a Committee on Program for the next meeting, to be held at Salem Church, in Russell county, on the first Saturday in June, 1912.

J. M. BLAIR, Secretary.

Bourbon—The Bourbon County Medical Society held its regular monthly meeting in the county court room of the Bourbon county court house, Thursday, April 25th, 1912, at 8 p. m.

The following program was carried out:

Reading of minutes of preceding meeting.

Reports of committees including Hospital Committee.

Report of clinical cases:

C. G. Daugherty reported a case of "Facial Erysipelas."

Frank Fithian, reported a case of "Delayed Chloroform Poisoning in Obstetrics." Three cases.

W. McKeeney read a paper on "Muscular Rheumatism."

W. G. Dally read a paper on "Inflammatory Rheumatism."

General discussion.

Presentation and discussion of amendment, "To organize the Bourbon County Medical Society, meeting monthly and to change County Society to quarterly meetings, a regular dinner being served."

This was an important meeting, and a full attendance was had.

D. B. ANDERSON, Secretary.

C. G. DAUGHERTY, Assistant Secretary.

Eversion of the Tunica Vaginalis in Treatment of Hydrocele.—Cernezzi has applied the Longuet technique for extraneous transposition of the testicle in nineteen cases since 1903, bilateral in three, with prompt and permanent relief. He emphasizes the necessity for making the incision over the upper pole of the tumor as thus the lips of the serosa can unite better afterward and form the sheath for the cord. Also that a silk suture before the catgut suture holds the parts in place better. He also warns against the slightest unnecessary orision of the testicle, and adds that it is unnecessary to drain.

Graphic Signs in Pulmonary Work.—The Journal has published articles on the subject of using signs or hieroglyphics to represent the auscultation and percussion findings, "clinical shorthand records." Nahm here gives the chart and signs which he has found most convenient for the purpose. (Harach's signs, based on the phonetic values, were illustrated in the American Medical Journal, Nov. 6, 1909, page 1541; they are widely used.

Turbidimetric Tests of Milk, Blood and Other Fluids.—The fluid in a very tapering wedge-shaped vial or glass is inspected through a narrow slit. As this slit is moved upward a point is reached where objects behind become visible through the fluid which is more or less opaque at the thick end of the wedge vessel. Schlesinger says that one is able thus to estimate the fat content of breast milk and market milk and detect admixture of water, to estimate the number of corpuscles in the blood, and, after restriction of the red corpuscles, to determine the proportion of whites.

SPECIAL RATES!

The Kentucky State Medical Association

**Announces a Special Train for the
Annual Meeting of the**

American Medical Association

VIA

The Pennsylvania Railroad

LEAVING LOUISVILLE

SUNDAY, JUNE 2, 1912, AT 1:10 P. M.

LEAVING CINCINNATI, OHIO

(Pennsylvania Station)

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WRITE FOR RESERVATIONS TO

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W. F. BOGGESS

VOL. X.

BOWLING GREEN, KY., JUNE 1, 1912

NO. 11

EDITORIAL

A. M. A.

The approaching meeting of the American Medical Association, at Atlantic City, promises to be the most valuable and interesting one that it has ever held. The program is replete with good things and it is hoped that at least 250 Kentucky doctors will take advantage of this opportunity for a practical post-graduate course. Arrangements have been made for a special train leaving Louisville over the Pennsylvania lines, on Sunday, June 2nd, at 1:10 P. M. This train will run through into Atlantic City without change. If you are going, write at once to C. H. Haggerty, Fourth and Market Streets, Louisville Kentucky, and reserve sleeper accommodations. Members from the Eastern part of the State can catch the train at Cincinnati, at about 4 P. M. on the same day. Ask your ticket agent for a thirty-day, summer tourist fare ticket to Atlantic City and return. This will cost \$29.00 from Louisville.

This will be a specially nice trip for the doctors' wives and children. Hotel accommodations at Atlantic City are abundant and can be secured at any price from \$1.00 a day up. It is a great opportunity for us all to see the ocean.

The return trip may be made via Washington, and ticket holders will have the privilege of stopping over at Cincinnati, Columbus, Ohio, Pittsburgh, Baltimore, Washington, or Philadelphia. A special post-graduate course will be offered to those attending the meeting in Philadelphia, free of cost, following immediately upon the close of the meeting.

PAYMENT OF FEES, UNDER VITAL STATISTICS LAW.

One of the greatest tasks the office force of the Bureau of Vital Statistics has had to perform since its existence, was the issuing of vouchers to physicians, local registrars and midwives. About ninety-six hundred of these had to be written, checked with certificates from each county and made to total individually and collectively with the certifications of the State Registrar, sent to one hundred and nineteen counties of the State. A force of ten clerks worked entirely upon this task for nine weeks and many times were compelled to work at night.

A great deal of the difficulty lay in the fact that many certificates were incomplete or delayed in registering, and these had to be gone over carefully before credits could be given under the law. If the physicians this year will review and complete each individual certificate, giving names, dates, ages, cause of death, and all the information necessary for statistics worthy of the name, it is expected that vouchers may be issued next year within thirty days after the receipt of the last certificates.

The voucher is complete in itself, being a check on the county treasurer, who by law is required to pay these claims, upon certification by the State Registrar, a receipt for the county and an itemized statement of account.

A number of progressive counties have already paid these claims, Ohio, Jefferson, Fayette, and Warren among them. Jefferson county having the largest population, naturally had the largest claim, \$4,800.25. Dr. Heizer, State Registrar, appeared before the Fiscal Court of that county, explained the working and intent of the law, and the bene-

fits to the citizens of the county and State, in keeping permanent family records, and the advantage such records have in enabling the State Board of Health to locate epidemics and through the cooperation of the people and health officers, be able to save many lives and much suffering. A practical application of such use being found in the control of the epidemic of cerebro-spinal meningitis in Louisville of this year. The State Registrar issued instructions that all burial permits for persons dying from that disease, must be issued from the city health office, thus insuring that all cases resulting in death should come to the knowledge of the proper health authorities. That Court unanimously voted the appropriation, after an opinion by Hon. Scott Bullitt, County Attorney, upon request of County Judge Weissinger. Mr. Bullitt agreed with State Attorney General Garnett, and the courts of last resort in many other states which have this law and its identical provisions for the payment of fees, that upon certification by the State Registrar of the amounts due physicians, local registrars and midwives, such amounts shall be paid by the treasurer of the county, and in order to safeguard the county's finances, and comply with the usual regulations in paying county funds, the Fiscal Court should pass upon these claims and allow them as other claims against the county are paid.

After this year, when, of course, the payment of these fees would cause some comment, there need be no further delay in securing the payment of such vouchers, and it is hoped that all certificates of births and deaths will be completed and registered promptly, so that a quicker delivery of these checks may be made.

Our results last year broke the record of registration in the United States, and Kentucky doctors are too well known for their ability in "delivering the goods" to expect less this year, when the hardest part of the road has been traveled.

A GOOD PHYSICIAN DESCRIBED.

Our attention has been called to a rather remarkable sermon, recently delivered by the Rev. C. A. Owens, of DeLand, Florida. The following are fragments from the sermon:

"It is one of the most important and oldest of the professions, dating back 3500 years before Christ.

"If a doctor would succeed in his profession, he should let other businesses alone. I do not want a physician to wait on me who has other distracting matters on his mind, who has so many irons in the fire that he

subordinates unconsciously perhaps his medical practice to other matters.

"Having temptations for evil and opportunities for good, more numerous than any other profession, medicine has some of the noblest and some of the best men in the world in its ranks. Above all others he most requires the grace of God.

"We want him to be trained, with a good college course, and four or more years as required to get his medical diploma to practice. The profession itself is so regardless of its integrity as to provide the strictest examinations before skilled critics of the profession, so that more and more we see the safeguards to our lives and health being erected by the profession itself, to whom we should be grateful for these protective measures.

"As a rule we should not put our patient knowledge above the diagnosis of our faithful family physician, nor should we patronize or favor the foreign physician, who can have no such vital interest in our lives as has our home doctor.

"Jealousy among physicians is a curse, it almost universal defect—

"Trifles light as air, are to the jealous heart, proofs strong as evidence of Robt. Writ."

"There is a need of friendlier feeling among them, as the public is apt to adopt the estimate they put upon each other, since a man rarely pays a higher price than the marks on his product.

"Our debts to our doctors are sacred. Through snow and rain and heat and cold they come to your stricken couch, themselves hungry, thirsty and weary, to save you from providential afflictions or from the results of your own imprudence or rashness—therefore, pay them what you owe them!

"No profession does so much charity work as the doctor, and none has so many uncollectible accounts. Few ever refuse to wait on the sick at any time, while in pestilence, or in sudden calamities the physicians form a noble volunteer army against death and disease.

"The time is coming when, instead of charging for treating the sick, physicians will be in China where they are salaried to keep individuals well! And when they fall ill, the doctor must treat them free!

"Let the doctors be clean in mind, in person, in speech, and have no pleasure in the counsels of the wicked and ungodly. Let him never betray the family secrets lodged in his breast by trusting patrons. For such violations, he should be put in stripes.

"The physician should stand in the front ranks in moral reforms against the social sin."

intemperance, and the enemies of the public health.

"Pray for your physicians, subject as he is to attacks of physical and moral sickness, tempted as perhaps no other man is tempted."

"In your infancy, in your manhood and at your death bed he is beside you, patient, tender, sympathetic, faithful. As Luke was called the Beloved Physician, and the Great Physician, let their earthly prototypes ever remember their high and noble calling."

It is important that the qualifications of the various professions and avocations of life be publicly discussed, especially, from the pulpit. It is a pleasure to congratulate this Florida minister upon the discretion and skill with which he has undertaken this task.

PIN WORMS.

In reply to a request from the State Board of Health, Dr. C. W. Stiles, the distinguished Zoologist of the Marine-Hospital Service, has written the following regarding pinworms: It is printed here because of its general interest to the profession of Kentucky.

"The young pinworms live in the small intestines and the males and females mate in that region. The fertilized females withdraw to the cocoon and later when gravid to the colon.

TREATMENT

"Treatment should take into consideration two distinct points; namely, not only the removal of the gravid female pinworms from the rectum, but also the removal of the younger worms from the small intestine. A failure to consider this latter point doubtless explains not a few cases of treatment which have not met with the success the practitioner expected. Still, the emphatic statement so often met with, that persistence is an essential factor in favorable results, is often justified.

"For removing the younger pinworms from the small intestine, several drugs may be used, as *santonin* and *calomel* (of each 0.05 to 0.1 gm.—3-4 to 1 1-2 grains) given several days in succession, or large potions of an infusion of *gentian*, or active saline cathartics repeated several days in succession, or *thymol* or *beta-naphthol*. *Ungar* gives immediately after a laxative, four doses per day of *naphthol* (0.1 to 0.4 grams—2 to 6 grains) according to age, for two or three days in succession between meals.

"To expel the gravid females from the rectum, rectal injections are used. An infusion of *quassia* seems to be one of the most popular remedies. Other commonly used enemata are: lime-water, aloes, diluted vinegar (which should be sterilized before using, otherwise the patient may become infected

with vinegar-ells), perchloride of iron, glycerine, benzine, (20 drops to a pint of warm water), finally chopped garlic with water (which has stood for twelve hours and is then strained through linen). Diluted carbolic enemata are advised by a number of authors, but they do not seem to have any special advantage over the other drugs and have in some cases decidedly poisonous effects.

"The injections are given with the buttocks elevated, or in the knee-chest position, at first every evening, then every two or three or four evenings, until all evidence of worms has disappeared. If too large an injection is given to be retained this washes out a number of worms; but it should be followed by a smaller injection, two to four ounces, or an amount which can be conveniently held.

"Ointments of various kinds may be applied in the evenings to the anus and perineum to relieve the itching."

MEDICAL MILK COMMISSION.

The Sixth Annual Meeting of the American Association Medical Milk Commission was held at the Seelbach Hotel Louisville, on April 30th and May 1st. There were twenty-seven out of sixty-six commissions represented by delegates and included members from California on the West, New York, and New Jersey on the East, Canada and Minnesota on the North and Alabama on the South.

The papers and discussions were replete with interest. Perhaps the most important work which was done was the adoption of final standards of working methods for all commissions. Unfortunately all states have not safeguarded the use of the term Certified Milk to the Medical Milk Commission appointed by a regular medical society and milk is sold as Certified Milk which bears the seal only of a private and usually paid milk commission. The standards adopted are the ideals to which all commissions must work to bring Certified Milk to what it really should be. The following is a definition of what is meant by Certified Milk and which should carry with it an endorsement of a perfectly safe clean milk for use of infants and invalids.

"Certified milk is a product of dairies operated under the direction of a medical milk commission; which body is appointed for voluntary service by a medical society. The milk is designed to fulfill standards of quality, purity and safety to insure its adaptability for clinical purposes and the feeding of infants.

"The certificate of the commission constitutes its authorization for the use of the term 'Certified'. The certification is based on the fulfillment of prescribed medical requirements

for the milk and is the guarantee that it conforms to definite standards and to fixed methods and regulations for its production.

"The standards of quality consist of fresh, whole milk, unchanged by heat or cold, less than twenty-four hours old when sold, held between the temperatures of 48 and 50 F., with not less than 12 per cent. of total solids, with fat contents between 3.5 and 5.5 per cent. and without the addition of any other material, substance, chemical or preservative.

"The standards of purity for the milk consist of the entire absence of particles of foreign matter, of the lowest possible bacterial and dust-dropping content consistent with the highest possible practice of dairy hygiene, provided that the numerical bacterial contamination is at all times below an average weekly count of 10,000 per cubic centimeter.

"The standards of safety consist in the use of every known means to exclude from the milk pathologic microorganisms, a medical guarantee that every employee handling the milk is free from disease and is not a disease carrier, and a veterinary guarantee that the cattle are in perfect health and cannot transmit through the milk any bovine affection.

"The methods and regulations for the production of Certified milk are those adopted from time to time by the American Association of Medical Milk Commissions; they are based on the most advanced clinical requirements, prophylactic science and dairy husbandry, and are changed as the action of the association modifies its technic for the attainment of its standards."

There is no question, but that Certified milk is one of the best methods of conservation and prevention of infant mortality.

California has enough commissions in operation to form a state association of Medical Milk Commissions and we trust that it may not be long before Kentucky may have more than two as at present there is one in Louisville and one in Lexington for Certified Milk.

The Standards and Working Methods will be printed as a special bulletin by the Public Health and Marine Hospital Service as the final report of the Committee of which Dr. John W. Kerr, Assistant Surgeon General was Chairman. This Committee prepared and circulated a questionnaire to all commissions and as a result of the reports sent in the standards and working methods were formulated.

HENRY ENOS TULEY.

WHY WE SHOULD FEAR BUGS.

The feeling of instinctive revulsion against parasites of all kinds which characterizes humanity generally, and which is due to something much more than the mere pain or an-

noyance that their bites might inflict, becomes more interesting as further discoveries show the role of such insects in the spread of disease. Unfortunately this natural abhorrence has not been enough to protect man under conditions of poverty and uncleanness from harboring such parasites, and now those who understand how much more than a mere personal annoyance is in question from the existence of parasites must take up the problem of eradicating them. The possibility of the bedbug conveying relapsing fever, typhoid and leprosy,—has been suggested and apparently there is no parasite of man that may not be a mode of disease conveyance. Flies, fleas, mosquitoes and bugs—not only are all under suspicion, but most of them are also actually demonstrated as ordinary and frequent conveyors of diseases of various kinds. According to *The Journal of the American Medical Association* health authorities must now take up the problem of getting rid of insect parasites in order to stamp out disease.

ANTISEPTIC MOUTH WASHES CONDEMNED.

In commenting on the hundred and one proprietary antiseptics which are on the market and which are all based on the familiar alkaline Dobell solution the *Journal A. M. A.*, (April 13, 1912, p. 1137) gives the following opinion as to the value of antiseptic mouth washes:

"For the treatment of the mouth an alkaline solution is very useful for the purpose of dissolving mucus and thus mechanically removing much of the fermenting mass, which consists frequently of food particles enclosed in a tenacious mucus. The introduction of numerous ingredients into these mixtures for the purpose of giving them a pleasant taste or with the claim of rendering them antiseptic has led to a considerable degree of confusion and mystification in the mind of the practitioner, a condition of which the nostrum maker has been prompt to take advantage. It is time to call a halt in the making of these mixtures which exemplify the tendency to polypharmacy and to ask ourselves what is the object of such a confusing association of ingredients.

"It may be questioned, in the first place, what need there is of antiseptics in a mouth wash. The antiseptic action is of value only where the antiseptic is to act for some time on the mucous membrane or the contents of a cavity. A mouth wash is used for the temporary cleansing of the mouth and it is not to be supposed that its antiseptic ingredients will remain in the mouth in an efficient concentration for any length of time, and this limits its value."

We are inclined to believe that, except so far as they promote cleanliness, that mouth washes in general are of little value and it is time that not only the profession but the public are apprised of the general worthlessness of the complex antiseptic solutions that flood the market.

SHORT AND EASY ROAD TO WEALTH.

Would you like to sell a 15 cent product for \$4.50? Do you want to make money easily and quickly? Then take some ordinary food product (like cottage cheese) and give it some imposing name (like Sanatogen) and sell it for thirty times what it is worth. The public will buy it if it is advertised under some mysterious name, with profound scientific claims as to its value. This is the moral which *The Journal of the American Medical Association* draws from its investigation of Sanatogen. This product, which has been advertised widely in the newspapers and magazines of the United States and Europe, has practically the same chemical composition as cottage cheese being composed of from 83 to 95 per cent. of casein. According to its promoters and the people who furnish the testimonials, it is "a recreator of lost health," "a specific nerve tonic," "a scientific compound," containing "over 700 per cent. more tissue building, life sustaining nourishment than wheat flour." According to the chemists of the American Medical Association it is nine-tenths casein or cheese (and very expensive casein at that) with the addition of about 5 per cent. of glycerophosphate. A table compiled from Professor Atwater's calculation shows its relative value as a food and its cost as compared to other food articles.

King of Food Material	Price Per Pound	Cost of 1,000 Calories Energy	Caloric Energy for One Dollar
Sanatogen	\$4.54	83.01	532
Cheese	.75	.77	1,300
Eggs (\$0.26 per doz.) . .	.24	.30	2,000
Beef, round	.14	.16	6,300
Milk (\$0.07 per qt.) . . .	.075	.11	8,500
Pork, loin roast	.12	.10	10,200
Butter	.20	.08	11,250
Mackerel, salt dressed . .	.10	.05	20,000
Cheese	.16	.08	13,500
Beef, stew meat	.05	.07	15,300
Wheat bread	.08	.05	17,250
Rice	.08	.05	20,250
Sugar	.06	.03	20,250
Pork, fat salt	.09	.02	20,250
Potatoes	.01	.03	20,500
Beans, white	.05	.03	20,400
Catmeal	.02	.02	5,000
Cornmeal	.025	.02	6,400
Wheat flour	.025	.02	6,400

Like all "patent medicines," Sanatogen has been exploited by means of testimonials and printer's ink. Actors, authors, politicians and not a few physicians—chiefly European—have testified to the wondrous prop-

erties of this product. *The Journal*, besides the chemist's analysis, submits letters from eight of the leading American authorities in medicine, physiology and chemistry. Dr. L. F. Barker, professor of medicine of Johns Hopkins University, says: "All of its (Sanatogen's) good effects . . . can be got by including milk and eggs in the food." Dr. Frank Billings, professor of medicine of the University of Chicago, says: "The thing is a fraud both as a food and as a tonic." Dr. Richard C. Cabot, professor of medicine, Harvard Medical School, says: "It is vastly improbable that it has the properties claimed for it in the advertisements." Prof. Otto Folin of Harvard Medical School says: "For myself . . . I prefer a glass of milk." Dr. Ludvig Hekton, professor of pathology, University of Chicago, says: "The statements made in the advertisements are extravagant, misleading and quackish." Other equally eminent authorities agree with those quoted. *The Journal* concludes:

Herr Tenfeldtsdröckh was right when he panegyrized clothes. And the worship of clothes is carried to the extreme nowhere so much as in the case of word-clothes. The most plebeian of things when bedecked in sufficiently imposing word-finery are endowed with the attributes of royalty before which the average intellect bows down. Neither cottage-cheese nor glycerophosphates, when exposed naked to the world, command any overwhelming respect; combined and dressed in the magic word "Sanatogen," they receive the homage of those whose judgment is blinded by the glittering trappings of word-finery. Some day, possibly, there will be a democracy of intellect which will refuse to prostrate itself before mere word-raiment and will insist on appraising things at their naked worth. When that day comes, proprietary humbugs like Sanatogen will have become us extinct as the dodo and the great auk.

THE ADMINISTRATION OF TINCTURE OF IRON.

H. A. Sharpe, Mount Vernon, Wis., gives a very simple method whereby tincture of iron may be administered in such a way that the peculiar astringent effects of ferric chloride may be exerted in the stomach and yet without the danger of effecting the patient's teeth. The method consists simply in directing the patient to transfer by means of a dropper the required amount of tincture of ferric chloride to the lower part of an empty gelatin capsule. The cap is filled with water, the water then poured out and placed over the larger portion containing the ferric chloride. This capsule can then be swallowed without any danger of the iron coming in contact with the

teeth. The same method of administration is recommended for terebene, creosote, etc.—(*Jour. A. M. A.*, April 20, 1912, p. 1221.)

HOOKWORM.

A letter was addressed to every member of the Kentucky State Medical Association except those in the large cities, asking for their immediate co-operation in securing specimens from anaemic children, for the purpose of getting a fairly rapid but accurate survey of the infection from intestinal parasites in Kentucky. The response has been so complete as to be a surprise to everyone connected with health work. The Bacteriological Laboratory of the State Board of Health has supplied itself with 1000 mailing cases, with the idea that they would receive not more than this many requests for them. This supply was exhausted within a week after the letter was sent out and they are now returned to the laboratory, at the rate of from five to fifteen daily.

This is but another of the practical examples of the value of medical organization to the health and lives of the people. Bulletins telling all that is known about Hookworm disease have been mailed to every physician in the State and additional copies will be mailed upon request. This cooperative work and the diagnosis and treatment of this disease is one of the most important undertakings in which the medical profession has yet interested itself. When a doctor is in doubt about the diagnosis of a chronic disease, he should send a specimen of feces to the State Bacteriologist for examination.

SCIENTIFIC EDITORIALS.

TO WASH OR NOT TO WASH, THAT IS THE QUESTION?

• Every now and then a new apostle arises and raises his voice in the wilderness for the benefit and protection of the vast army of the unwashed. The last individual to be possessed of prophetic vision, is a British authority, so called, Sir Almroth E. Wright, who believes that too much bathing is unhealthy. We read with much surprise from an editorial in the *Literary Digest* that this individual remarks "I do not think cleanliness is to be recommended as a hygienic method," to which the comment is added that "these are not the words of an eminent Pinte Medicine Man, but a British authority on hygiene." This eminent scientist, author of a system of inoculation against typhoid and other bacterial vaccinations, said in a recent lecture on "*Bacteriology and Health*," "people say you must have hard exercise and a certain amount of washing and

a certain amount of fresh air, but I am persuaded that these rules are quite wrong. There is a belief that by washing, people wash off the microbes. We do take off a certain amount of microbes, but we also destroy the protective skin, which is all around our bodies, like the tiles of a house. When one has a horn hand, no microbes can ever get near the skin. A great deal of washing, increases the microbes of the skin, so I do not think cleanliness is to be recommended as a hygienic method."

The great work that Wright has done, in his study of opsonins, makes him an authority to be respected, but *only* in his own branch: which perhaps shows the folly of talking about something one is not thoroughly acquainted with.

The whole question does not commence and end with the bacterial content of the skin. The skin is an excretory organ, and discharges effete material constantly, upon its surface. This material is only partly soluble in water; a great deal of it is oleaginous in character: being somewhat sticky in character it catches a great deal of the impalpable dust and dirt of the atmosphere, even though we wear clothes. It may be remarked that the external layers of the epidermis are constantly dying, we all know, from personal experience what dead protein material will do, based upon our early experience with the disintegration of poor "Towser's" remains. In similar and lesser degree, putrefactive changes take place on the surface of the skin, and thus we have many things to consider besides the bacterial question. Perhaps Wright has been a little myopic.

The writer has very clear, definite beliefs with regard to this question. Mere bathing with water is not sufficient; the modern life requires, in our present civilization, the use of a cheap and useful article, to-wit; *soap*. Soap is an alkali; it mucratizes dead epidermis, loosens dirt and saponifies the fatty glandular discharges. Water and soap thus remove the dirt, the soluble material and the saponified mass from the skin, leaving it smooth and with its millions of pores open.

Now, I will grant, there is a world of difference between bathing and the British "Morning Plunge." The cold plunge bath is in the opinion of the writer the most trying method, for the application of cold water to the cutaneous surface, and should only be used when one is strong, has a good reactive power and has been gradually trained to the bath. Again I remark, as I have so often said in my writings and in my work "*Practical Hydrotherapy*," that a family would be far better off as far as health, vigor and feeling is concerned, if they would purchase a shower

bath and install it in a good bath room, than if they purchase some handsome ornamental hat rack for the front hall. I believe that small children should commence to bathe and keep up the habit until the "grim reaper" carries them from off this terrestrial sphere. Probably no single treatment in all the range of therapeutics offers such opportunities as hydrotherapy, and Wright, whose name carries great influence with it, has certainly been either misquoted or is in grave and deadly error. A warm bath, with soap, followed by a rinsing in warm water, then a *short cold* or *very short cold shower*, lasting only a few seconds, followed by vigorous friction with a crash towel, is a prescription that will in its practical application nullify the theory that this distinguished Britisher might entertain. It strengthens the cutaneous circulation, leads the great body of blood to the surface, strengthens the action of the heart, and prevents congestion of internal organs. The impact of the cold increases oxygen consumption, betters appetite, favors elimination and brings about wide changes in metabolism, such as are caused by no other agent. It will make one brighter, happier, and render their systems vigorous to resist some of the dangers that this bacteriologist would have us believe arises from the skin. His view is an absurd one, but as Hapgood remarks in a tiny editorial in Collier's "it may at least help some readers to learn that it was John Wesley, in a sermon "On Dress" and not some personage in scripture who placed cleanliness next to Godliness." In conclusion we might add that the bath here suggested is not an offense against healthfulness in any sense of the word. We have refrained from mentioning the disagreeable features that might be the fate to those who would be so unfortunate as to have to be thrown with the unwashed in close and daily contact. It would indeed be a strain upon their olfactory nerves. Let us hope that the modern is in the ranks of the gamin and a "little too wise" to accept even so eminent an authority as Sir A. E. Wright, even if there is in everyone a certain reverential feeling for authority.

CURRAN POPE.

HOW SHALL WE DIE?

"Can storied urn, or animated bust,
Back to its mansion call the fleeting breath,
Can Honor's voice provoke the silent dust,
Or flattery soothe the cold, dull ear of
death?"

—(Gray's "Elegy in a Country Church-yard.")

Perhaps nothing since the Iroquois Theatre fire has stirred the emotions of the American people to such an extent as the deplorable

wreck of the Titanic, a gallant craft of enormous size, equipped with every modern luxury, destined to be a great greyhound of the Atlantic, a model that went to make up the sum total of man's knowledge of sea travel. Leaving her port of departure, she turned her head toward the West, as staunch a ship as ever pressed its proud prow and keel against the turbulent waters of Father Ocean. Titanic in name, Titanic in size, with all the pride of pomp and power, in the glory of her maidenhood, she raced to a doom, the awful tidings of which have brought despair to homes and stunned the faculties of sympathetic humans. The story has been told, and man taught that after all, he is but the atom that his Creator made him; that he has been humbled by a frightful and fearful lesson; that, that which is made by man's hands is frail and uncertain, and only that made by Deity, lasts with the indestructableness of the granite hills.

Man, in his proud boastfulness has been taught this sad and serious lesson; has been shown that the modern *speed mania* is a menace to life; the curse to civilization, which can be truthfully said to travel on land, as well as on sea. With panting, throbbing, pulsating engines, the great Titanic responding like a noble and blue-blooded race horse to the touch of the master's hand, plunged forward with ever and ever increasing speed, only to become a victim of a national mania, that is fast reaching the proportions of a *national neurosis*.

Death sat gaily on the prow, taking his toll of many lives, lives that are precious, lives that are useful, lives that mean happiness, comfort and support to others, but death was not alone. Chivalry and Gallantry, hand in hand, stood side by side on that deck where heroes died. One may "Be British," but after all, this is but the expression of an Anglo-Saxon trait. These men were men, and it will be a long time before "we shall look upon their like again."

Out of tragedy, out of sorrow, out of travail and suffering, good invariably springs, and human though the reflection may be. Disaster is stern teacher, but like experience, it is a sure one, and out of this holocaust it is to be hoped that rules and regulations will be secured that will prevent a like disaster.

There were physicians on board; some were saved, some died. They were doctors, but first of all they were men and they met their fate unheralded and unsung, but we at least in the profession can appreciate and understand just exactly how they would feel, and can, as a whole profession, feel proud that there was not one among them that showed the "white feather." Though they will be like so many in our profession, classed among the unsung

heroes. Nor does the bravery of the Titanic disaster eclipse in any way, the constant bravery and devotion that the medical profession is giving to humanity, without a fear, and with the full knowledge that death at every turn stares them in the face.

Let us stand uncovered and reverential before these unsung heroes.

"Death comes with a crawl or he comes with a pounce.

And whether he's slow or sly,

It isn't the fact that you're dead that counts.

But only, How did you die," —(Cooke)

CURRAN POPE.

PLEURISY.

Pleurisy is often overlooked in infants and in children that it is necessary occasionally to recall its features so that mistakes in diagnosis may be rarer. Before entering upon a disquisition upon this disease it may be noted that the most frequent source of mistake in diagnosis lies in the fact that the so-called pathognomonic symptom of pleuritic effusion in the adult chest, namely the loss of the normal vesicular breathing and voice sounds over the pleural exudate is absent in the case of children. In fact the breath sounds often come to the ear with increased distinctness and bronchial breathing of the most characteristic type is heard with great ease and so one is misled unless one is alive to this deceptive phenomenon. But more of this anon.

Of the usual types of pleurisy, the serous, sero-purulent, the fibrous, etc., we shall find the serous far more frequent in infants and children but it is a question of only a brief period until the serous is converted into the purulent and empyema has resulted often before one has suspected the pleuritis.

Inflammation of the pleura can result from many different causes. By far the most common is the extension of inflammation from the lung to the visceral layer of the pleura which is so intimately connected with the connective tissue stroma of the lung. One might almost say that pleurisy can follow any pneumonic process which has involved the superficial acini of the lung and that it cannot come from a bronchitis because of the intervention of healthy tissue. Pneumonia, broncho-pneumonia, and tuberculosis of the lung are the most frequent factors in these cases. Extension of the inflammation may, however, come from the pericardium or from below the diaphragm as a perinephritic or perihepatic abscess or malignant tumors above or below the diaphragm or from the outside as the result of a traumatism. Finally, there are certain general conditions which act in different ways to produce a pleural effusion, such as scarlet fe-

ver, rheumatism, Bright's disease, and even anemia.

The onset of the disease will be modified by the condition which is causing the pleurisy. If there is an extension of a frank pneumonia there will be much pain, jerky respiration, a sparing of the affected side in breathing, etc. If it follows a less severe process such as Bright's disease or even a tuberculous invasion there may be few if any local symptoms to awake one's attention. The most common history in children will be that the effusion has been preceded by a pneumonia as we find the pneumococcus in the effusion in about one-half the cases. In adults on the other hand the tubercle bacillus is the cause of the effusion in more than on-half the cases and therefore the prognosis of adult pleurisy is not nearly so favorable as in children.

The anamnesis in children will record that the child suffered from pneumonia either lobar or lobular, and that much pain was complained of, which pain is severe and may be referred to remote points. In pneumonia itself the pain may be referred to the epigastrium in such a way as completely to delude us and focus our attention on the stomach instead of the lung. Or the pain may be felt in the arm or shoulder. It is possible to find that pain has been felt and yet that the patient has escaped the pleurisy. But if there is a pneumonia preceding the pleuritis there will certainly be much pain. Children, however, do not localize their pains as do adults and it has seemed to the writer that they often do not make as much complaint as men will. After the pneumonia has reached its crisis there remains some indefinite fever and the cough persists and the patient fails to gain strength rapidly. Then upon examination the presence of an effusion is determined. In the main the symptoms of effusion within the chest are the same as in the adult but there are certain symptoms which are markedly different and about which a few words of caution may be spoken. There is found the same dullness on percussion, with displacement of the abdominal organs and of the heart to the opposite side, the difference in the measurements of the sides of the chest are not so easily obtainable nor is the intercostal bulging so evident, Rauchfus' triangle is easily made out. The coin test is equally helpful. The level of dullness is not so irregular as in the adult chest.

The difficulty arises, however, when we go to confirm these signs by auscultation when often we are surprised and nonplussed to hear bronchial breathing as distinct and as characteristic as in the most unquestioned case of pneumonia. Sometimes the bronchial breathing and bronchophony are just under our ear but usually there is a muffling of the sound

and a far away character to it which is quite diagnostic when one has once learned it.

The prognosis is more favorable in children if recognized and properly treated because of the fact that tubercle bacilli are so infrequently connected with the process.

The treatment of pleurisy is not altogether satisfactory at present. Our efforts should be directed first of all to the relief of pain, which is best accomplished by strapping the chest and the administration of some form of opiate, in small doses; several drugs are credited with modifying the inflammatory process. Aconite or better aconitine, bryonia and in rheumatic cases salicylate of soda, have proven beneficial. Usually the inflammation results in an out-pour of serum, in spite of any furor of treatment. In adults this effusion may remain serous for weeks or even months. In children it practically, invariably becomes purulent before that time. The discussion of empyema may well be left to a subsequent paper. When the effusion collects very rapidly, there is either a marked disturbance of the breathing or a great displacement of the apex beat of the heart, to the right or even to the left. When the lung is contracted down upon the root to the lung and there is no possible expansion for it, then surgical measures must be resorted to for the removal of all or part of the effusion. Incision with drainage seems to give the best results in the young. In pneumococcal pleuritis the removal of small quantities of the serum will often start the process of absorption so that the liquid is rapidly eliminated. It is advisable of course to use iodine secundum artem, with a mild counter-irritant to hasten this process.

The subsequent treatment should look towards securing a perfect expansion of the lung, which has been contracted and perhaps bound down to some extent by the scar tissue, resulting from the organized lymph. For this reason exercise which produces deep breathing will be most helpful.

PHILIP F. BARBOUR.

Iodin in Exanthematous Typhus.—Uffgenauin-off reports fourteen cases which added to Jaworowsky's forty-one brings to fifty-five the number of exanthematous typhus patients treated with tincture of iodine internally, three or four drops three or four times a day, taken in red wine. The disease was unmistakably modified by the medication and evidently much for the better in the entire group, he says.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

RELIABLE MEDICINES.

GYNOVAL is isoborneol isovalerate, $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{COO.C}_{10}\text{H}_{17}$. It is closely related to bornylval (see N. N. R., 1912, p. 49). It is with difficulty soluble in water. The action of gynoval is said to be that of a mild nervine, and antiseptic, resembling that of valerian, with the advantages of a much more agreeable odor and of being better tolerated, especially not giving rise to unpleasant eructations. Like other valerian preparations, it is said to be indicated in nervous headaches, nervous insomnia, nervous disorders of the climacteric, hysteria, cardiac and gastric neuroses and neurasthenia. 0.25 to 0.50 gm. (4 to 8 grains) two to four times daily, best given after meals. Gynoval is marketed in the form of gynoval pearls, containing 0.25 gm. (4 grains) gynoval Farbenfabriken of Elberfeld Co., New York. —(*Jour. A. M. A.*, Feb. 10, 1912, p. 411).

EXSICCATED SODIUM SUCCINATE (*Sodi Succinus Exsiccatus*) is the disodium salt of succinic acid containing not less than 95 per cent. anhydrous sodium succinate, $\text{NaOOC.CH}_2\text{CH}_2\text{COONa}$. It is a white granular odorless powder, possessing a characteristic saline taste. It is readily soluble in water, but insoluble in alcohol, ether and chloroform. It is a saline cathartic claimed by some to have an antiseptic action in the biliary tract and to be useful in combating infections of the gall bladder and biliary passages. Dose 0.3 gm. (5 grains) three or four times a day. Manufactured by Fairchild Bros. & Foster, New York and by Merck & Co., New York. —(*J. A. M. A.*, Feb. 24, 1912, p. 554).

ATOPHAN is 2-phenyl-quinolin-4-carboxylic acid, $\text{C}_6\text{H}_5\text{N.C}_6\text{H}_4\text{CO OH}$, 2:4. The substance was first described by Doelner and Gio-

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

secke in 1887. Its therapeutic action was described by Nicolaier and Dohrn in 1908. It is insoluble in water but readily soluble in alkalis and has a slightly bitter taste. In doses of 0.25 to 0.50 gm. (4 to 8 grains) it increases uric acid excretion, within one hour. In doses of 2 to 3 gm. (30 to 45 grains) the normal average uric acid excretion is doubled and sometimes even trebled in twenty-four hours. Its influence on uric acid excretion is stronger and more prompt than that of sodium salicylate. It does not increase the number of leukocytes, or affect the quantity of urine, or the amount of total nitrogen, purin bases or phosphoric acid.

It is said to be useful in gout, particularly in the acute attacks, acting more promptly than colchicum and without undesirable by-effects. In gout the dose is from 0.5 gm. (7 1-2 grains) four times a day to 1 gm. (15 grains) three times a day suspended in large quantities of water. To prevent the precipitation of free uric acid from the urine, sodium bicarbonate may be administered simultaneously. In articular rheumatism daily doses of 3 to 5 gm. (45 to 75 grains) are prescribed.

Atophan is also marketed in the form of tablets, each tablet containing 0.5 gm. (7 1-2 grains). Schering & Glatz, New York.—(*Jour. A. M. A.*, March 2, 1912, p. 633).

REFORM IN MEDICINES.

PRESCRIPTION NONSENSE.—As an expectorant mixture for children the following prescription has received considerable publicity. It is supposed to be a treatment for bronchitis and bronchial pneumonia in children, and to produce "free expectoration":

"Rx.

Ammonium carbonate	gr. xvi
Wine of ipecac.	zss
Compound syr of squills	zi
Fluidextract of squill	s. c.c
Fluidextract of senega	s. c.c.
Antimony and potassium tart-	
rate	2 gh.
Purified tale	2 gm.
Sugar	75. gm.
Water, to make	100 c.c.
Syrup of senega	zi
Syrup of tolu	ziv
Distilled water	q.s.ad.zii

M. et Sig.: One teaspoonful every two hours for a child two years old."

This prescription is irrational. The chief objection is that ammonium carbonate, which affects the circulation and is irritating to the throat and stomach, is used rather than ammonium chloride, which is a non-irritant stimulant to the mucous membranes. The prescription is unnecessarily complex and con-

tains ingredients that are incompatible, contraindicated and superfluous. It is a nasty mixture which should not be inflicted on a hopeless child. It is to be deplored that such prescriptions are copied and spread broadcast as advice of value.—(*Jour. A. M. A.*, Feb. 10, 1912, p. 410).

SALICYLATES IN SCARLET FEVER.—The recommendation of Dr. F. G. Crookshank (*Practitioner*, Dec. 1910) to administer salicylates or salol to scarlet fever patients as a routine treatment to prevent occurrence of rheumatism as a complication appears to have appealed to medical journals.

Joint rheumatism is a rare complication of scarlet fever, while nephritis is a frequent one and drugs that are used to prevent an improbability should not be so irritant as to aid in producing a frequent probability.

Regarding the recommendation that salol be administered until the patient "reeks of it" it should be remembered that salol (phenyl salicylas) is a compound of phenol and salicylic acid, into which component parts it breaks up in the intestine and hence is liable to cause phenol poisoning. To administer salol to a child with scarlet fever, who is likely to have nephritis as a sequence, is without justification.—(*Jour. A. M. A.*, Feb. 10, 1912, p. 411).

OZONE MYTHS.—Seaside and mountain resorts alike have benefited by the reputation of "ozone in the air" in the neighborhoods involved. The excusable longing of an ever-ailing population for a stimulating atmosphere and for an ideal antiseptic has led many to look hopelessly toward that substance which appears to represent the acme of the valuable properties of oxygen. The honest manufacturer and the medicine faker have both been alert to avail themselves of the opportunity for public service, so that "ozoneizers" and "agonizers" products are displayed in abundance.

It had been hoped that inhalation of ozone-laden air might facilitate oxidation in the tissues, and especially advantageous results were looked for in such conditions as pulmonary tuberculosis, but altogether the results of experiments are disappointing; on the one hand ozone is not the harmless innocuous agent which certain fakers have tried to make us believe and on the other hand inhalations of ozone are much less effective than was thought. Taken altogether it may be said that the value of ozone as a curative agent remains to be proven.—(*Jour. A. M. A.*, Feb. 10, 1912, p. 412).

EFFECT OF STRYCHNINE ON BLOOD-PRESSURE.—Opinion is divided on the question

whether or not the administration of strychnin is followed by a rise in the arterial blood-pressure. Thus while such authority as B. C. Cabot (*Med. Communicat. Mass. Med. Soc.*, 1904, xix, 945) concludes that no rise in blood-pressure occurs, Cook and Briggs (*Johns Hopkins Hospital Reports*, xi, 12) concludes "Strychnin gives a rise in blood-pressure somewhat delayed in onset and lasting from one to four hours. Strychnin is a most satisfactory cardiovascular stimulant for long-continued routine administration, maintaining a satisfactory blood-pressure level free from intervals of depression."

Evidently, the clinical effects of strychnin are in need of further investigation. Exact clinical observations by accurate methods, under a variety of conditions, are needed. Such a study is now being undertaken by a committee of the Council on Pharmacy and Chemistry.—(*Jour. A. M. A.*, Feb. 10, 1912, p. 414).

STUART'S PLASTER-PADS—Adhesif Plaster-Pads, formerly called "Adhesive Plaster Pads," are sold by the Plapso Laboratories, Inc., formerly "The Stuart Plaster Pad Company". It is a "rupture cure" which is advertised not only in the daily papers, including the *Police Gazette*, but also in some medical journals. The claims made for the pads are of the usual "patent-medicine" faker kind and the exploiter has escaped prosecution only on a technicality. Stuart's Plaster-Pads, which are claimed to do in a few days what the most skillful physician and surgeons are unable to accomplish in weeks or even months, consist of a strip of adhesive plaster with a small pad containing a simple ointment. According to a report from the Association's Chemical Laboratory it is a lanolin ointment containing tannic acid and perfumed with oil of pine needles, or some oil with a similar odor and colored dark brown. While in the promotion of this "rupture cure" the use of trusses is severely condemned the Plapso concern, nevertheless, if unable to persuade its prospective dupes to the purchase of its pad will in the end attempt to sell such a truss.—(*Jour. A. M. A.*, Feb. 10, 1912, p. 425).

NOSTRUMS ABROAD—Two recent publications show that the need for restrictions in the sale of nostrums is felt everywhere. A Russian publication, "Where Is the Truth" by Dr. Sokoloff, discusses the means which are being used in Russia to cure the nostrum evil, namely a government control and a requirement to declare the composition of all medicines sold to the public. In his treatment of nostrums Dr. Sokoloff follows a plan of investigation much like that used by the Council on Pharmacy and Chemistry, but his

work is rendered much easier by the energetic cooperation of the Russian government.

The other is the first of a series of pamphlets published by the Central Bureau of Medical Advertising in Sweden. In it the author, Professor Thunberg of Lund, devoted some fifty pages to a plain talk to the public, attempting to prove, by a popular interpretation of certain physiologic and chemical phenomena, the absurdity of patent medicines and the ready-made diagnosis.

It is interesting to note that a part of the methods of attack of the problem in Russia is the autocratic restriction of nostrum advertisements. In more democratic countries on the other hand the growth of public opinion has to be depended on for similar results.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 486 and 510).

PROPRIETARY MANUFACTURERS COMBINE.—The "patent-medicine" makers long ago realized the value of organization and combined to form the Proprietary Association of America which organization has opposed the enactment of laws that should protect the public from the evils of nostrums and quackery. Now the manufacturers of "ethical proprietaries" have organized and formed the National Association of Manufacturers of Medicinal Preparations. Most of the large manufacturing pharmaceutical houses have joined it. This organization, like its "patent-medicine" prototype, has apparently been created with but one object in view, to make money, honestly if possible, but to make money. The association went on record as opposing the modification of the Food and Drugs Act, recommended in President Taft's special message, which would prevent "cancer cure" fakers and others in similarly disreputable businesses from publishing lies on the labels of their nostrums, the Mann bill, which would regulate the transportation of habit-forming drugs, Senate Bill 4727, which would require the weight or measure of all drugs sold in package form to be plainly printed on the label. Finally, the association admitted that it was organized for the purpose of opposing the campaign against ready-made mixtures. The ethical stand of this organization of manufacturers of "ethical proprietaries" does not appear to be any higher than the stand taken by the manufacturers of "patent-medicines"—(*Jour. A. M. A.*, Feb. 17, 1912, p. 487).

"PATENT-MEDICINES" AND THE PUBLIC.—A layman in the sparsely settled state of New Mexico writes in part: " * * * Some time ago, I was talking to a neighbor whose married daughter * * * had been taking Cora B. Miller's headache tablets for some

time. She used them for headaches, pains in any part of the body, even for sleeplessness. Several weeks before she had an ulcerated tooth, and in five days took what was estimated to be over 200 grains of acetanilid—although she did not know it. She had symptoms of acetanilid poisoning. The Cora B. Miller exposure pamphlet, and later the government bulletin on headache remedies caused her to stop at once. She borrowed all the pamphlets I had, had the neighbors read them and even sent the 'Great American Fraud' to her old home. One neighbor threw a bottle of Bromo-Seltzer out at once. • • • • • A similar leaven appears to be working throughout the whole country and it is therefore no wonder that nostrum venders and quacks are moving heaven and earth to discredit the American Medical Association.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 489).

PHARMACEUTICAL MANUFACTURERS AND THE COUNCIL ON PHARMACY AND CHEMISTRY.—The Indiana State Medical Association discusses the relation of pharmaceutical manufacturers to the Council and the profession and states: "The house that refuses to have its products passed on by the Council is not worthy of the patronage of the medical profession, for it can be definitely stated without fear of contradiction that the houses which object to the work of the Council on Pharmacy and Chemistry are not playing fair." It is pointed out that the medical profession should not support houses that refuse to request an examination of their products by the Council for no reputable firm need have any fear because the Council will be sure to give its approval if the representations concerning any product or products are correct.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 501).

WOOD'S CURE FOR DRUNKENNESS.—Edward J. Woods sells from 534 Sixth Avenue, New York City, a mail-order cure for drunkenness; from 1269 Broadway of the same city, he sells a mail-order cure for bald heads as well as a preparation to take the kinks out of the negro's hair. Woods sometimes advertises under the name of a stool-pigeon, Dr. Mary E. Webb, of Boston. Letters sent to Dr. Webb are forwarded to Woods. The nostrum sold by this man as a cure for inebriety, and the man's method of selling it, are discussed. The exploitation is carried on in a style common to mail-order medical fakers: the usual follow-up letters, a sliding scale of prices and testimonials by the ream. Wood also publishes what purport to be analyses of his remedy from individuals who seem to be in the business of furnishing similar certificates to other quacks. An examination of Woods' nostrum showed that it consisted essentially of tar-

tar emetic and sugar of milk. Attention is called to the fact that Woods was recently arrested in New York City for the illegal practice of medicine and was fined the maximum penalty, \$500. In closing it is stated: "Knowing that the chances are not one in a thousand that those who are, in their ignorance, trying secretly to cure members of their immediate family of alcoholism, will be willing to risk the publicity that a demand for the return of their money would bring, Woods calmly continues his nefarious trade unmolested and unafraid."—(*Jour. A. M. A.*, Feb. 17, 1912, p. 502).

FOOD AND DRUGS ACT CONVICTIONS.—The following are frauds exposed under the Pure Food and Drugs Act:

HOXIE'S CROUP REMEDY—"Dr. A. C. Hoxie's Croup Company," Kells Co., Newburg, N. Y., was sold under the claim that it would cure diphtheria and consumption as well as croup, whooping-cough, colds, etc. While the present interpretation of the law permits such lying claims, the product was proven misbranded because the alcohol content had been wrongly declared.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 503).

COCA SALISAYA—Cassebeer's Coca Calisaya Shepard Pharmacal Co., was found to contain over 42 per cent. alcohol, together with sugar, cocaine, quinine and other alkaloids. Although the stuff was plainly misbranded and the Shepard Pharmacal Co., had pleaded guilty for some reason, not evident from the government report, sentence was suspended.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 503).

MORSE'S CREAM.—Morse's Cream, Hazen Morse, New Rochelle, N. Y., was said to be a "Cod Liver Oil Cream" which was "artificially digested" and to possess "10 times greater nutritive value than cod-liver oil." The analysis showed the preparation to be an ordinary cod-liver oil emulsion containing 39 per cent. cod-liver oil and not 67 per cent. as claimed and which had not been artificially digested. The defendant pleaded guilty and was fined.—(*Jour. A. M. A.*, Feb. 17, 1912, p. 503).

FERRO-CHINA ANTIMALARICO.—This product was shipped in interstate commerce by A. Saunig & Co. Although said to be prepared from the "best quality of quinin" and sold as a "cure and preventive of malaria" analysis showed that it contained no quinin.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 571).

WELL'S HAIR BALSAM.—This preparation was made and sold by E. S. Wells, Jersey City, N. J. While claimed not to be a dye and

to contain nothing harmful to the hair or scalp analysis showed it to be a perfumed mixture of sulphur in a watery solution of lead acetate (sugar of lead) and glycerin.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 571).

LAXATIVE BORO PEP-SIN.—A product manufactured by the Senoret Chemical Co., St. Louis. While the name of this nostrum would suggest that it possessed the therapeutic and medicinal properties of boron and pepsin, chemical analysis was unable to detect either substance.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 571).

KENNEDY'S WORM SYRUP, CHERRY BALSAM AND HERCULIN TONIC.—These three products were made and sold by the Dr. David Kennedy Company, Rondout, New York. The "Worm Syrup" while claimed to be perfectly harmless was found to be a solution of santonin (partly deposited), sugar and oil of anise in a mixture of water and alcohol.

"Cherry Balsam" was a "consumption cure" claimed to be "harmless." It was found to contain alcohol, opium, bitter almond oil and sugar and therefore can hardly be held to be harmless.

"Herculin Tonic" is a typical cure-all. Analysis showed it to have, essentially, the following composition: alcohol, 16.00 per cent., quinin 0.065 per cent., sugar 19.98 per cent., water, glycerine and undetermined matter 64.765 per cent. The only medicinal constituent found by analysis was quinin and this only to the extent of .06 per cent.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 571).

IDENTIFYING THE MANUFACTURER.—The National Association of Manufacturers of Medicinal Preparations apparently is opposed to legislation in the interest of public health and safety whenever such legislation would result in decreasing profits for the manufacturers. Besides opposing the law that would prohibit the making of exaggerated and misleading therapeutic claims, the law that would regulate the transportation of habit-forming drugs, the law requiring the weight of drugs, sold in package form, to be printed on the label, it is also opposed to a law that would compel the manufacturers of all medicinal preparations to put their own names on their own products. Those who are familiar with pharmaceutical trade know that very many patent medicines are made by our large pharmaceutical houses and hence it will be understood why this association is opposed to any law that would permit the public and particularly the medical profession, to know the class of trade some of its members cater to. Further those who have followed patent medicine exposures will not be surprised to

learn that the secretary of the National Association of Manufacturers of Medicinal Preparations characterized the bill which would permit the public to identify the manufacturer as a "foolish provision", or that the president of the organization should look on the bill as one "that we can conscientiously oppose." As an illustration of the strange bedfellows made by politics and the nostrum business it is noted that the president of this organization, who thus opposes a law that would throw light on the connection between pharmaceutical manufacturers and the "great American Fraud," was nominated for his position by a manufacturer who has long shouted from the house-tops that he made "no dope for quackery."—(*Jour. A. M. A.*, Feb. 24, 1912, p. 559).

FORMAMINT TABLETS ADVERTISED TO THE PUBLIC.—While in the United States Formamint tablets are advertised in medical journals only, in England they are exploited to the public. As a sign that in due time they will be similarly exploited here it is reported that in Canada they are now advertised in the lay press as a typical patent medicine. Formation of the natural course of events, namely the "ethical" remedy of to-day is the "patent medicine" of the future.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 562 and 572).

AGAR IN THE TREATMENT OF CONSTIPATION AND DIARRHEA.—The use of agar in constipation was suggested by Adolph Schmidt in 1905. Dudley Roberts (*International Clinics*, 1911, IV) finds it of great value in many forms of constipation. It is also of value in the treatment of certain forms of diarrhea. When ingested it causes scarcely any discomfort, and is in no way irritating to the intestine. When taken for constipation it stimulates peristaltic activity by its bulk but no habit is established and when the evacuations become regular it may be discontinued. Roberts has found the dose to be four to eight teaspoonfuls. Adult like the finely cut agar, while children take the ground variety in cereals without objection. It may be taken dry from a spoon and washed down with fluid, but as a rule, is taken better with vegetables, cereals and cooked fruits or with thick sauces. It may also be mixed with the dough of cakes, biscuits and cookies just previous to baking.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 573).

A SHOTGUN FORMULA.—In response to an inquiry as to the quantities of peroxide of zinc, powdered alum, oxid of zinc, ichthyol, phenol, menthol and aromatic oils, to be combined in an ointment, the following criticism is made:

Such a formula, while not absolutely incom-

patible, is too complex; it is a combination of sedatives and stimulants or irritating substances, not all of which are likely to be serviceable in the same case. Before making such a mixture it would be well to consider whether it is the effect of alum, of peroxid of zinc or of ichthyol that is required in the individual case. The use of such a mixture can hardly be regarded as proper treatment either for a condition which requires a sedative or for one which requires a stimulant; and the routine prescribing of such shotgun mixtures is almost as reprehensible as the use of nostrums, the composition of which is unknown; for while one would have a knowledge of what one is giving in the complex formula, the presence of one or another ingredient is practically certain to be overlooked.—(*Jour. A. M. A.*, Feb. 24, 1912, p. 578).

"U. S. P. AND N. F. PROPAGANDA."—To further the intelligent and rational use of medicines, *The Journal of the American Medical Association*, with the assistance of the Council on Pharmacy and Chemistry and of the Chemical Laboratory, has exposed the false claims made in regard to the composition and the action of many proprietary medicines. In so far as it promotes the use of preparations of known composition in place of those of unknown, uncertain or fraudulent character, the medical profession is indebted to pharmacy for the aid which has been given. The medical profession cannot, with good grace, criticize pharmacy for having chosen the path of least resistance when it attempted to wean physicians away from proprietary nostrums by encouraging the use of similar official preparations. There is danger, however, that the pharmacists' propaganda may mean only that the physician who previously used certain proprietaries unceremoniously will be led to use just as unceremoniously the official preparations. Let us hope therefore that those physicians who substitute official preparations for proprietary nostrums will do so with a full realization that they are still in their professional swaddling-clothes and that they should make a serious effort toward individual, rational prescription-writing.—(*Jour. A. M. A.*, March 2, 1912, p. 640).

EZ-X-BA AND PELLAGRACIDE.—Inquiries regarding certain nostrums sold as cures of pellagra were referred to Dr. Reid Hunt of the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service which has for some time been conducting a study of pellagra. EZ-X-BA and Pellagrace are each supplied in the liquid and the tablet form. From the report of the analysis made in the Hygienic Laboratory it appears that the liquid forms of EZ-X-BA and Pellagrace

consist essentially of an aqueous, slightly acid solution of iron, aluminum, magnesium and calcium sulphates. EZ-X-BA and Pellagrace tablets appeared to consist of iron, aluminum, and magnesium sulphate mixed with starch and sugar. A similar preparation could be prepared at a nominal cost from the partially weathered iron-bearing minerals occurring abundantly in the South by digestion with dilute sulphuric acid.—(*Jour. A. M. A.*, March 2, 1912, p. 648).

GODFREY'S CORDIAL.—Another baby has been killed with Godfrey's Cordial. Godfrey's Cordial appears in the National Formulary as a synonym for *Mistura Sassafras et Opii* and a teaspoonful (4 c.c.) contains about 0.12 c.c. (2 minims) of tincture of opium corresponding to about 0.03 gm. (1.5 grain) of opium. The designation of "cordial" to such a dangerous mixture is deplorable for the term cordial gives the impression that the article bearing it is not only harmless but beneficial. It should be omitted from the next issue of the National Formulary or its synonym changed so as to render it less potent for harm.—(*Jour. A. M. A.*, March 2, 1912, p. 650).

ORIGINAL ARTICLES

FUNDAMENTAL ERRORS IN OUR SYSTEM OF EDUCATION*

By R. J. W. PRYOR, Lexington.

There may be many fundamental errors in our system of education; there may be few. Evidently there are some; hence the interest now manifest in the subject of educational reform.

In treating this subject, I would call your attention to what I consider a fundamental error in our system of education and that is, a failure to appreciate the importance of the "Science which deals with all the influences that improve the inborn qualities of a race," the science of Eugenics, as defined by Sir Francis Galton, and what are those influences that improve the inborn qualities of a race.

Unfortunately many people seem to think that Eugenics is solely concerned with the sterilization of degenerates and the confirmed criminal, and the discussions upon eugenics degenerate to this phase of the subject. Granting its value, this is but a small part of the broad subject that Eugenics must embrace, if we are to consider all the influences that are to improve the inborn qualities of a race.

It seems to me we should begin with a thorough study of the unit of a race, that is, the

*Read before the Fayette County Medical Society.

individual. Hence it is not important that thorough courses in anatomy, physiology and hygiene should be given in the university, the college and the high school? The responsibility of the university and the college are of equal importance with that of the grade and high school, perhaps greater, and it is in the higher institutions that thorough courses in the anatomy, physiology and hygiene of the nervous system should be given.

I have given anatomy the first place, for it seems to me to be a self-evident fact that we should have a thorough knowledge of the organ, without which it would be impossible to understand its functions; otherwise the regulation of which and the rules of condition could not be formulated.

The brain is a very complicated organ and this is not confined to the human by any means. It has been said by experienced psychologists that it is with difficulty that the alienist is enabled to detect and diagnose a departure from the normal. It has been said: "When the attempt was made to analyze the anomalies of conduct in the insane, it became evident that no distinctive qualitative difference separated them in behaviour from normal individuals. In the daily up and down of ordinary life are found the bases of the pathological condition known as the manic-depressive insanity, while in the precocious, bizarre habits of young people and children are recognized the germs of that sad group of cases known as dementia praecox. In the rigid, inflexible opinions so frequently expressed in the discussions of religious and political questions, we find the key explaining the stand-pat position of individuals subject to chronic insane ideas. The individual showing a particular bias or those inoculated with the spirit of excessive partisanship, the sentimentalist, the whole lot of faddists, the doctrinaires, the obstinate and the bigots to a certain extent reflect, but to a less degree some of the mental traits of the paranoic."

Dr. Paton says: "The general tendency of educators to prescribe definite mental tasks in order to increase the efficiency of an organ whose functions they have never seriously studied is analogous to the practice of the physicians of the old school, with their inordinate faith in the specific power of a large number of drugs to cure disease." Again he says: "An education, even if wisely planned and well directed, adds nothing to the natural brain power of the individual; it merely gives his latent faculties an opportunity to develop to their highest point of efficiency." In other words, we inherit just so many brain cells, the number of which we cannot increase, but the quality of which we may greatly modify by nourishment, exercise, education. Thus the principles of Eugenics and Euthenics, heredi-

dity and environment, are the potent factors in the development and welfare of the individual and consequently the race.

We cannot say which is the more important, heredity or environment, or that either of them is the most important. Heredity and environment are interdependent; neither is the more important. Both are indispensable for the production of the highest type of animal or vegetable creation. Both are of vital importance to the well-being of the individual. But the question is asked, what has heredity to do with present conditions? Do we inherit our ancestors' physical, mental and moral traits? I will answer this by saying: We may not in all instances inherit these to the extent that they are apparent, but we do inherit the physical, mental and moral characteristics of our ancestors; and these traits may be modified to a marked degree by environment. These characteristics are inherent in the germ cells of both parents and are united by the process of mitosis in the single fertilized cell, from which each individual is developed. Thus the physical, mental and moral traits of the individual are determined, first by the nature of the heritable traits transmitted from the ancestors; then comes in the influence for good or evil from environment. Of course figs do not grow upon thistles, but witness the thornless cactus, the result of cultivation, environment, education. It has been said that our present system of education has a baneful effect upon the health of the rising generation. This does not seem to be true, in the light of the fact that the length of life has been increasing about seven years within the past generation. But it is not a fact that the vast improvements in sanitary science and preventive medicine are the prime factors in the increase in the length of life, and this may be true, in spite of any system of education that may be in vogue.

Preventive medicine and the conservation of human life is one of the most vital economic questions of the twentieth century. It is my belief that the reason for the apathetic attitude of the public toward the prevention of disease is the lack of confidence in the expressed views of the scientific physician. They do not believe that tuberculosis, typhoid fever, etc., are preventable diseases, they do not believe, or at least they do not fully realize, that in practically every case of typhoid fever, the patient has taken into his own mouth the discharges of some other typhoid case, and that the exercise of a little common sense and diligence would prevent this; they do not believe that the toxins of syphilis and poisons like alcohol, lead, etc., circulating through the blood, will so affect the germ cells that the children of these persons may be imbeciles or epileptics; they do not believe

this, because they *think* they know to the contrary. In some instances they do know that such is their own condition, and *their* children are apparently normal, neither epileptic nor imbeciles, but did they realize that these same children, when mated with one of like inheritance, are just as sure to produce defectives, yes, degenerates, as that daylight and darkness succeed each other, they would *stop to consider*. The time has arrived for the dignified doctor to throw off his robe of reticence and attack with vigor the enemies of progressive and preventive medicine. He must participate in public discussions; he must refute the false statement of so-called reformers—antivivisectionists, anti-vaccinationists—the sentimentalists whose sole delight is in maligning the medical profession.

It is true that it is a most difficult matter to discriminate between the genuine and the quack. It is a failing of human nature for drowning men to catch at straws. I have seen the best of educated and progressive physicians willing to try most any remedy with the hope of obtaining relief, when his mind and judgment were disordered by disease, and you cannot blame the public for this failing. The worst form of a charlatan is the plausible, pleasant, sympathetic and encouraging physician, who makes a diagnosis without difficulty, and proceeds to drug, electrify, etc., until at least the purse of the patient is sufficiently depleted. I have said that physical traits are heritable. All are familiar with the transmission of features, from parent to child—the color of hair and eyes and even peculiarities. But we may go deeper than the surface, to find physical evidence of the inexorable facts of heredity. During a research on the ossification of the bones of the developing child, I have found that normal variations in the ossification of the bones is a heritable trait. In this research I made the following observations:

First. The process of ossification is inaugurated much sooner than hitherto supposed.

Second. The bones of the female ossify in advance of the male. This is measured at first by days, then months, then years.

Third. The chronological order in which the bones of the carpus are ossified is different from that formerly supposed.

Fourth. The bones of the first child, as a rule, ossify sooner than those of subsequent children.

Fifth. Regardless of the variations (normal) the ossification is bilaterally symmetrical.

Sixth. The union of the epiphyses with the shaft takes place much sooner than formerly supposed.

Seventh. Variation in the ossification of bones is a heritable trait.

And this brings me to what I consider a

fundamental error in our system of education, that is, the massing together of children of all degrees of mentality, regardless of their physical condition and making them conform to a single standard. This I think is wrong in principle and in practice.

Dr. Thomas Morgan Rotch, of Harvard Medical College, says: "Up to the present time the age of an individual has been computed by years. This rule will probably always hold good in all civilized communities from a legal point of view. When, however, the question of age is brought to bear on our school systems, whether in classifying and grading children as to their studies, or in pitting them against each other in athletic sports, it becomes a very serious question as to whether chronologic age is a wise division during the formative period of life. Again, when the important question of child labor is brought before us, and we have to determine at what age a child should be allowed to work, and what the degree of that work should be according to the chronologic age, the decision becomes momentous and we can at once see that a chronologic division for this purpose is not only insufficient but clearly pernicious. It behooves us then to look at the question of age in early life, first, from a chronologic point of view manifestly legal; second, as regards athletics, manifestly anatomic; third, educational as regards school grades, manifestly a combination of chronologic, physiologic and anatomic conditions."

With these facts and with the addition of the observations I have made, Dr. Rotch has formulated a table which is based upon the X-ray examination of the wrists of a large number of children. This table represents his anatomic index, which, in connection with physiologic conditions and chronologic age, is used to classify children in their school work, athletic contests and for child labor. Time will not permit of a more extended explanation of this. It is evident that if we expect to accomplish the best results, we must begin at the beginning. How important is the care of the individual during the plastic stage of childhood. Modern psychologists say that comparatively little change in moral bent takes place after adolescence. It is, then, in childhood that physical, mental and moral plasticity is to be reckoned with and taken advantage of if we expect to mold the individual. The education of a child means much more than merely communicating to it the contents of a text-book. Some discretion must be used by the teacher in determining how much study each child is capable of. The physical and mental powers are so interdependent that no system of education, although designed solely to develop mentality, would be complete which ignored health and is it not

true that a physically and morally healthy personality compensates to some extent for a lack of intellectual equipment? The educating of children renders their mental efforts largely dependent upon their physical condition. The teacher should have an accurate knowledge of each child's physical condition. An impaired physical condition implies a perverted mental and perhaps moral condition. A well-nourished body and brain is an essential requisites for mental equilibrium. Hence Juvenal's dictum: "A sound mind in a sound body." The proper mental and moral environment is as essential to the developing character as the proper physical condition is to the body. Intellectual and temperamental differences are influenced by many causes. Imperfect nutrition due to a deficient or defective diet is the cause of irritability to the point of viciousness, or to at least irresponsibility and stupidity. It is a sad fact, but it is true, that the want of discrimination in diet is almost universal.

Note the ideal (?) lunch I had the opportunity of inspecting. While walking down Broadway, a little girl about seven or nine years of age tripped and in falling her lunch basket was emptied. After picking up the child, I assisted in picking up the lunch, which consisted of two hard-boiled eggs, some pieces of cheese and several slices of cake—only the proverbial pickle was needed to complete this ideally indigestible, indiscriminate lunch, evidently prepared by an irresponsible parent or guardian. On another occasion I was fortunate enough to be seated near two mothers—a small child by the side of each—at an afternoon entertainment. One of the children was eating candy the greater part of the time and was beyond the control of the parent and a constant disturbance during the afternoon. The other child was quiet and seemingly contented. I noticed that during an intermission the mother gave *this* child some bread and butter sandwiches. I have no doubt the diet had a great deal to do with the disposition of these children. Many children are mentally backward because they are improperly fed.

We must educate the children from the time they enter the kindergarten, through the grade and the high school, through the college and the university. They must understand and practice the fundamental principles pertaining to clean bodied and clean minds. I would place the latter first, but I fully appreciate the difficulty of maintaining a clean mind in a body of the opposite condition. Has it ever occurred to you that absolute cleanliness means perfect health? Cleanliness is the keystone to sanitation. With absolute cleanliness of body and mind, there would be no popular disease. I refer, of course, to venereal diseases. With absolute cleanliness, tuber-

culosis, typhoid fever and the infectious diseases would disappear from the face of the globe. Cleanness of body and mind cannot be legislated into anyone. It is a question of education and this must begin in the kindergarten, for it is here the foundation is laid, upon which the superstructure is to be erected that determines the future life of the individual, and the welfare of the community. But the most important question and the greatest error in our system of education is the failure to provide instruction in sex hygiene and perhaps in social hygiene. You may ask when and how this should begin. It is unquestionably the duty of every parent to instruct their children in sex hygiene, but they do not do it and how many parents are capable of giving their children instruction on this subject? Unfortunately the large majority of parents are totally incapable of instructing their children, and even those who are capable fail, through some mistaken ideas of propriety and they hesitate to mention such subjects to the supposedly innocent child. The question arises when should this instruction begin?—certainly not in the university or college—provision should be made for a continuation of instruction upon these topics, but it must begin much sooner in life, if anything is to be accomplished. If the principles of physical, mental and moral cleanness were thoroughly instilled in the developing child, the great questions of moral uplift and the greatest question of the present century—that of the white slave traffic—that is eating at the very vitals of civilization—would in a large measure be solved, and we must not close our eyes to the fact that the white slave question is a living one in our own city. The House of Bondage is not a myth. It exists in all large cities. It is said that here are twenty-five thousand public women in the city of Chicago. The life of these unfortunate creatures is about five years, and to maintain this ratio, they are renewed at the rate of five thousand per year. And this is not confined to Chicago. Is it not appalling to know that this condition is universal? Something would be accomplished by vigorously prosecuting, not the poor unfortunate creatures that exist in these places, but publish, prosecute and punish the men who are responsible for this deplorable condition. But, after all, is it not a matter of education? While I do not believe that you can legislate morals into anyone, I am sometimes inclined to think with Parkinson: "The merit of truth is not in its nakedness. To depict in startling colors the awful consequences of vice and to dwell on its equally appalling prevalence have never been found effective in advancing the standards of virtue. Fear of consequence is not the ultimate appeal to a robust nature. No degree of danger will deter a

youth from venturing into experiences which he believes he is to share with those who constitute the real world; and vice always claims to be the real side of human life. Society is so permeated with this tone of patronage toward the poor fellow who has not sown and reaped wild oats, that no threatened consequences can avail much with a youth who would rather be penalized than patronized. The half contemptuous attitude toward innocence maintained so conspicuously by the more outspoken portion of the public, is more impressive to the average youth than all of the public, is more impressive to the average youth than all the scare-heads that benevolence may display in his path. For every man desires to be a sharer with other men. Unless he can be assured that reality reaches as far upward as it does downward, that the upper world is as rich to the explorer as the nether and affords at least equal manly companionship, he will cast his lot with the underworld and take his chance with his fellows in spite of all warning."

CLINICAL MICROSCOPY.*

By MASON COOMBS, Pineville.

Should the physician attempt to diagnose a certain condition without regard for the temperature or pulse rate, or character of the pulse, he might succeed, and he might fail. In some affections they are of little or no significance; in some, absolutely misleading; in others, as for instance, typhoid fever with its typical temperature curve, together with the corresponding low pulse rate, of more aid than any other clinical manifestation. Therefore, to lose sight of either of these valuable indicators would mean that, sooner or later, he would be groping in the dark.

The same is true of the use of the microscope. Although in certain instances, it lends no aid; in others its use enables us to arrive at a definite conclusion; in which cases, without its aid, we are unable to make a diagnosis.

By the use of the microscope alone, we may diagnose many conditions and many other diseases, microscopic findings, together with the clinical manifestations confirm a diagnosis; in which diseases its relative value, as a guide, is second to no consideration.

The primary lesion of syphilis is readily diagnosed by taking from the ulcer a smear of the serum, staining with India ink and finding, under the microscope, the spirillum responsible for this particular disease—*spirochæta pallida*. The diagnosis made, treatment may at once be instituted, without a waste of two to six weeks' time for the eruption to ap-

pear that we may know the suspected ulcer was specific.

The best diagnosticians in this country are not, in all cases, able to differentiate diphtheria from other allied conditions without determining the presence or absence of the bacillus which induces it. Vincent's angina so closely resembles diphtheria that at times it is impossible, without the aid of the microscope, to differentiate the two diseases.

In tubercular lesions of the throat or nose, the macroscopic appearance and clinical symptoms are not sufficiently marked to warrant a diagnosis, whereas the presence of the tubercle bacilli is pathognomonic.

Microscopic examination of the sputum often enables the diagnostician to detect incipient tuberculosis before cavity formation takes place.

In tubercular lesions of the kidney or bladder, a microscopic examination of the centrifugized urine reveals the trouble readily.

But recently, one of the best surgeons in Chicago advised an operation on a physician for appendicitis. So marked were the clinical symptoms that he based his opinion on them alone. Not being willing to subject himself to an operation without first having a more thorough examination, he declined to submit to it, and it was found, after a microscopic examination of his blood and feces, that he had, not appendicitis, but intestinal parasites. There was no polymorphonuclear leucocytosis, which is always present in appendicitis, and the only change in the blood was an increase of the eosinophile ratio. They constituted, in his case, 20 per cent. of the total leucocyte count, as against 1 to 4 per cent. in health. This was strongly indicative of intestinal parasites, which the finding of eggs in the feces confirmed. He was treated accordingly and his symptoms promptly disappeared.

The microscopic examination of the urine is equally as important as the chemical examination. If we have albuminuria, we surely want to know what condition is accountable for it. If in urine which contains albumin, we find, of the casts, only the hyaline type, we know that we have to deal with a parenchymatous inflammation of a mild degree. The presence of epithelial casts would indicate desquamation, and if we find granular casts, we know the kidney is undergoing a process of degeneration. In any of these conditions we may get albuminuria, so when we find albumin in the urine, we should not content ourselves with the knowledge that it is present, but seek to know why it is present.

We all know the value of blood examination in surgical diagnosis; the differential leucocyte count as an index to the severity of infection; the polymorphonuclear ratio, to body resistance, idiophilia reaction to determine the

*Read before the Bell County Medical Society.

presence or absence of pus; as for instance, in appendicitis of the suppurative type, we get a positive iodophilia, whereas in catarrhal appendicitis, with no complication, we invariably get a negative result. In pleurisy, with purulent effusion, iodophilia is positive; with serous effusion, negative. It is to be remembered that this phenomenon occurs in diabetes and a number of the acute infectious diseases.

The Widal test, in suspected typhoid, is best made with the aid of the microscope.

Finding of the plasmodium malarial in the blood is often necessary to diagnose malaria.

It is of unspeakable value in differentiating the anemias and is practically the only means of recognizing lymphatic and myelogenous leukemia.

Below is a list of requisites for practical microscopic work: Microscope, with tripple nose piece, 2 oculars, 3 lenses, 2-3, 1-6 and 1-12, the latter for oil immersion; mechanical stage, hemocytometer, Thoma-Zeiss preferably, Coplin jar, bell jar, for scope; 1-2 gross slides, 1-2 oz. cover lids, 3-4 inch square, No. 1; platinum needle, cornet forceps, alcohol lamp, box for 25 slides, tube Canada balsam, 10 grams Grubler's methylene blue, 10 grams Grubler's eosin a 1 c., 10 grams Bismark brown, 30 c.c. aniline oil, 100 c.c. Loeffler's alkaline methylene blue, 100 c.c. carbol-fuchsin, 1 lb. pure methyl alcohol, 1 bottle oil of cedar, 1 bottle India ink, 1 centrifuge, test tubes, filter paper, a few tubes of blood culture media, 1 tube typhoid bacilli.

I do not think it necessary to have an incubator, as one can make use of his inside vest pocket, or a Thermos bottle for growing cultures.

Excepting blood examinations, any physician should be able to do practical microscopic work, such as he has use for in every day practice. Even the blood work is not difficult. To be able to read the various blood pictures one must first familiarize himself with that of normal blood. He must know the appearance of the normal erythrocytes, and be able to recognize the different types of leucocytes, and their proportions in health. He must be able to make a differential leucocyte count. Finally, he must know any departure from health, as represented by the blood picture, and be acquainted with the conditions which generally produce it. This requires time and painstaking, but it is worth while.

PTOMAIN POISONING.*

By J. M. SALMON, Ashland.

The word ptomain, from the Greek ptoma, a corpse, was coined in 1875 by Selmi, an Italian investigator.

Many years prior to this time, the investigation of Kustner, Schlossberger, Panum, Bence Jones, Bergmann and Sonnenschein had demonstrated that the poisonous principle of putrid meat is a chemical substance, not a living organism.

Nencki and his pupil Brieger first determined the chemical character of these substances, ptomains, by the analysis of a base, $C_8H_{11}N$.

Brieger's researches, the most extensive in the chemistry of ptomains, established the constitution of a number of putrid bases.

The chemical phase of this subject is essentially technical, and therefore of interest to those only who have had special training in bio-chemistry. To physicians generally, however, the salient facts may be expressed by the definition of the term ptomain—"abasic, nitrogenous, organic substance produced by bacteria."

Ptomains have been called animal alkaloids, but this term is not accurate. They are not necessarily produced from animal substances but may be formed by the putrefaction of vegetable proteins. Moreover, they are not always, or even generally alkaloids. Usually they are classed chemically as nonamides, diamines, triamines or amido-acids.

The term ptomain, therefore, applies not to the individuals of a distinct class of chemical compounds, but to the bacterial origin of members of several different chemical functions having in common the two qualities that they contain nitrogen and are basic. (Witt-haus).

Strictly speaking, with regard to the derivation of the word, ptomains are produced only by saprophytic bacteria, either outside the living body or within it; (intestinal putrefaction or gangrene). Recently, however, the basic products of parasitic bacteria are also designated ptomains, or toxins.

The list of ptomains is long and many of them are unimportant and non-poisonous. Those formed by pathogenic bacteria, however, are actively poisonous. Thus tetanin, a ptomain according to the definition given, when injected into animals, produces symptoms similar to those caused by the bacterium themselves. But it has been shown that such ptomains, obtained from cultures of virulent bacteria, are greatly inferior to toxicity to the bacteria-free cultures of the same organisms.

*Read before the Boyd County Medical Society.

The inference, therefore, is plain that these bacteria produce other substances, not yet understood, but commonly termed toxins, which are non-basic, and are the chief agents concerned in bacterial poisoning.

Witthaus classifies ptomaines according to chemical function, as follows:

Monamins, (methylamine, propylamine).

Diamins, (neuridin, saprin, spermin).

Triamins, (methylguanidin).

Hydramins, (cholin, neurin, mosearin).

Betains, Amido-acids (leucin, tyrosin, Alkaloids, the best known of which are indol and skatol.

In addition to these, there are ptomaines of unknown chemical composition such as morphin, typhotoxin, tetanotoxin, tyrotioxin.

Much time and labor have been devoted to the study of the ptomaines, but it still remains to be demonstrated that the ptomaines are, *per se*, responsible for the group of symptoms which we call "ptomain poisoning."

It is probable that the well-known phenomena which follow the ingestion of certain foods is produced by several ingredients of these foods.

These poisonous ingredients may be innate, as leuconains; or they may be derived from external sources. Thus quail, grouse and rabbits are sometimes poisonous because of certain foods eaten by these animals. Usually, however, the development of poisonous properties in foods is due to bacteria, either acting as such, or as toxins elaborated by them.

From the foregoing statements it will be seen that the term "ptomain poisoning" should be abandoned because it is misleading and inaccurate. A better term is "food poisoning" which includes all the various factors concerned.

For practical purposes it is best to study subject of food-poisoning as it applies to each of the common classes of foods.

Among foods of animal origin commonly containing poisonous substances are the various meats as veal, beef, pork, and, rarely, chicken and mutton. These meats may be poisonous either as a result of infection of the animal during life; or because of putrefactive changes due to improper care or curing of the meat.

Meat from diseased animals usually contains organisms of the type of the bacillus paratyphosus, and the toxic symptoms developed in those who eat such meats is really an infection by bacilli of the colon-typhoid group, principally the bacillus enteridis of Gartner, which is closely allied to the bacillus of hog-cholera.

Van Ermengen has shown, however, that meat may be infected with the bacillus paratyphosus after the removal of the meat from

the body. In such cases the meat is often unchanged in taste or appearance, and it's character cannot be determined by the usual tests.

In the form of Wienerwurst and other highly spiced meat mixtures paratyphosus infection is often disseminated. The toxin is highly persistent to heat and therefore may not be rendered innocuous by cooking.

The symptoms of this form of meat poisoning appear after a period of incubation of from two to forty-eight hours. The patient becomes dizzy, nauseated, vomits and is seized with abdominal cramps and diarrhoea. There is usually headache. Fever may or may not be present, petechial skin eruptions may appear, there may be continued fever, enlarged spleen, rose spots, and in short all the symptoms of a mild typhoid infection. The mortality is low, only 2.3 per cent. in 400 cases, and these deaths occurring among infants and the aged.

In 1895 Van Ermengen isolated a large spore-forming, motile and strictly anaerobic bacillus which he named the bacillus botulinus. This organism secretes an intensely powerful toxin which is destroyed by a temperature of 100 C.

The contamination takes place during the curing process and the organism may be carried by flies. Kemper isolated this bacillus from the feces of the hog, thus furnishing an argument against the practice of using the stomach and intestines of the hog as a covering for sausages.

Canned meats have usually been implicated in epidemics of botulism. Blood and liver sausages are especially dangerous.

The symptoms of botulism appear after twelve hours and are expressions of the effects of the toxin on the nervous system and on the heart muscle. Gastro-intestinal symptoms may be present, but are not as a rule prominent. The principle phenomena are dryness of the mouth, diminished secretion of urine or anuria, constipation, dilatation of the pupils, paralysis of accommodation, diplopia, ptosis, ophthalmoplegia, aphonia, difficult deglutition. There is weakness of the heart and general prostration. Fever is absent. The course of the disease is slow and the paralysis may last for months. The mortality ranges from 20 per cent to 40 per cent, and most of the fatalities occur between the second and tenth days. (Lauk).

Meat may be infected with putrefactive organisms, and it's ingestion may be followed by symptoms essentially the same as those of paratyphosus poisoning; but the duration is short—seldom longer than a week—and fatalities are rare. In these cases the offending organisms have been either the bacillus coli communis or the proteus vulgaris.

The flesh and organs of certain varieties of

even healthy fish may contain substances poisonous to man. In Europe the roe of the harel is known to be poisonous during spawning season. The same is true of certain varieties of herring and mackerel. The liver and ovaries of the globe fish family are intensely poisonous.

The poisons referred to are innate (leucemains), and cause two types of disease—gastro-intestinal and nervous.

The gastro-intestinal type is common and requires no special mention. The nervous type is due to poisons which have been isolated from the ovaries of the globe-fish family, found off the coast of Japan and the Malay Archipelago. The best known of these poisons is fagin, which closely resembles curate in its action, causing complete motor paralysis. The majority of those affected by this type of the disease die in from one to three hours after the onset of symptoms.

Most of the instances of fish poisoning have been due to bacterial toxins as described under meat poisoning. In the epidemics reported, the symptoms described are strongly suggestive of botulism although no careful bacterial examination for the bacillus botulinus has been made.

The toxins of putrefactive bacteria in fish cause symptoms similar to paratyphosis infections in meat.

Mussels and oysters which have been taken from contaminated water, sewage, often contain a peculiar toxin or toxins which may cause serious or even fatal poisoning. According to Vaughan the gastro-intestinal form of crustacean poisoning is due to putrefactive poisons, while the paralytic form is due to a special toxin isolated by Brieger, called mytilotoxin.

Milk poisoning (galactotoxismus) and ice-cream or cheese poisoning, (tyrotoxismus) are due to bacteria of the colon group, which, according to Vaughan produces a toxic albumose. In the majority of reported epidemics, investigation of the suspected food has revealed the presence of tyrotoxin, but whether this substance alone, or in conjunction with colon bacteria is responsible for the toxic phenomena is undetermined.

The symptoms of this form of intoxication are apparent within five or six hours after eating the contaminated food.

There is vertigo, nausea, dryness of the throat and burning of the oesophagus and stomach. Chills are not uncommon. Vomiting and purging follow with severe abdominal pains. There is headache and, in bad cases, stupor and convulsions. Numbness and cramps in the feet and limbs may be present and there is occasionally loss of control of

the sphincters. Most cases of milk poisoning recover in a short time and the mortality is almost nil.

PELLAGRA.*

By A. E. THRELKELD, Wheatley.

Pellagra is an endemic trophic disease of toxic origin, with various manifestations, characterized by gastro-intestinal, cerebro-spinal and cutaneous symptoms. The term is from the Italian; pelle (skin) and agra (rough). Pellagra is no new disease. It has existed in Italy and parts of Southern Europe for nearly 300 years. A few isolated cases have been reported in this country for the past thirty years, but it did not exist to any appreciable extent until the year 1907. It prevails mostly in the Southern states, but cases have been reported in thirty different states of the Union.

At present it prevails more or less from central and southern Asia westward to California. Speaking in round numbers there were officially reported in the United States during 1908 1000 cases; in 1909, 5000 cases; in 1910, 10,000 cases. Doubtless there have been many more unrecognized and unreported cases than the number officially reported. Some physicians in a position to competently judge believe there were 100,000 cases during the year 1911. The disease is unquestionably rapidly increasing, and it now bids fair to become a national problem.

The etiology of pellagra is at present unknown. Reed believes the fungus *diploida* are a possible factor; Rohrer thinks it due to the *aspergillus fumigatus*; Auld attributes it to a magnesium infiltration; Fizzoni and Wood have isolated a bacillus which they think the cause; Long believes that amoebae in stools have a definite relation to pellagra; Sambon believes it due to the bite of the sand fly. The only theory of the above which seems likely to be proven correct is that of infection by the simuliid fly, commonly known as the sand-fly.

The result of more recent research work tends to prove that the eating of maize products, either sound or unsound, has nothing to do with the cause, save as the eating of musty or mouldy meal may possibly lessen the normal resistance of the system to the infection.

Story of Sabon (*Jour. A. M. A.*, November 26, 1910, p. 1898) is that the sand-fly after biting a pellagrian and then afterwards biting another person, infects the latter with the toxin of pellagra. The grounds on which Sambon bases his theory are as follows.

(a). The endemic centers of pellagra in

*Read before the Owen County Medical Society.

Italy have remained the same since the disease was first described.

(b). The season of occurrence of pellagra coincides with the season of the appearance of the full-fledged sand-fly, and to the extent that if the spring is early or late, the sand-fly is early or late in appearing, and pellagra cases are correspondingly early or late in their appearance.

(c). In centers of pellagra affection whole families are sometimes attacked simultaneously.

(d). In non-pellagrous districts the disease never spreads to others with the advent of a pellagrin from a pellagrous district.

(e). In the case of a family which has removed from a pellagrous to a non-pellagrous district, the children born in the former district are pellagrins, while the children born subsequent to removal to a non-pellagrous district do not develop the disease.

(f). The disease is not hereditary, although infants a few months old may become infected, especially if taken to the fields in pellagrous districts, when their mothers work during the season when the sand-flies are in evidence.

(g). Pellagra is not contagious, but is transmitted to each individual by an infected sand-fly.

S. J. Hunter (*Journal A. M. A.*, Vol. LVIII page 547) experimenting along this line, transferred a colony of sand-flies to a screened room occupied by a pellagra patient. After the flies had bitten the patient they were transferred to a screened cage containing a monkey. In three weeks the monkey became sick, continued to grow worse, was afterwards killed and an examination of the brain and spinal column showed indications of the pathological lesions of pellagra. Preparations are being made for carrying on valuable research work, along this line the coming season, and this gives us some assurance that in the near future the etiology of pellagra will be placed on a sound scientific basis.

The pathology of pellagra has not been put on a very definite basis. Harris, of Georgia, noted degenerated changes in the chromophilic cells of the cortex of the brain, and the cells of Purkinje of the cerebellum. In the cord cell degeneration is noted and at times this goes to cell destruction.

The symptoms of pellagra are many and of great variety. All ages are susceptible from the infant of three months to extreme old age, the majority of cases, however, occur between the ages of 30 and 40 years. Whites are more susceptible than negroes. Persons living in rural districts are much more frequently infected than those in urban centers. As regards sex probably seventy-five per cent. of cases in this country are females. Of 189

deaths from pellagra reported from Texas, only 36 of these were males. Only 7 of these were between 20 and 50 years of age. This seems to indicate that persons staying the greater part of their time around the house are more liable to become infected. Sanitary environment seems to exert no influence, the rich and poor, and persons in all ranks of society have become infected. The duration of the disease is from a few weeks to seven years and it may exceptionally last longer.

Pellagra occurs in two forms. The acute fulminating variety and the chronic. The fulminating variety runs a course from a few weeks to a few months and is generally fatal. Should a patient survive it will recur the following spring. The chronic form occurs in two types. In one the disease appears in the spring, runs more or less severe course through the summer, has nearly or quite a complete remission during the winter and returns the following spring. In the other, a rare type, exacerbations occur both in the spring and fall with summer and winter remissions.

Generally the first symptoms noted are those of a gastro-intestinal nature followed by cutaneous and nervous manifestations. Stomatitis is an almost constant symptom; tongue red, gums red and spongy; increased flow of saliva, with burning sensation in mouth and throat. More or less vomiting in three-fourths of the cases.

Intestinal symptoms are prominent in practically every case, generally in the form of diarrhoea, very rarely by obstinate constipation. In most cases we have alternate constipation and diarrhoea. The eruption generally appears on backs of hands first, or it may appear first on top of feet and ankles or on the neck. Generally the eruption appears only on parts of the body exposed, but may in old cases spread over different parts of the body. The skin first becomes red and rough, and sometimes small blebs appear; later fissures occur with incrustations, beneath which exudes serum. Desquamation follows with dark brown pigmentation leaving the skin rough.

As a rule the next development is nervous and mental symptoms. The mental symptoms do not develop until late in the history of the case and exceptionally may be so slight as to be overlooked. These symptoms run all the way from a nervous, restless, peevish condition; or deficiency in memory with occasional hallucinations, to active delirium and pronounced mania.

Cramping pains are felt in various parts of the body; generally some headache; lassitude weakness and anemia supervene; pulse increased in frequency, temperature usually normal.

Beverly S. Tucker, Richmond, Va., (*Jour. A. M. A.*, Vol. LVI, p. 246) sent forms con-

taining 100 questions to various physicians reporting cases of pellagra, and his conclusions drawn from these reports gives us some of the most valuable information ever written regarding this malady. His conclusions embrace 29 paragraphs.

1. Pellagra may occur at any age from childhood to old age.

2. In the South although the negro forms the majority of the lower class, yet pellagra is most common in the white.

3. The disease while affecting chiefly the lower classes still occasionally is met with in those of good social and hygienic surroundings.

4. The disease is widely spread and did not occur in local epidemics.

5. The disease in cases reported is more common in the rural districts than in cities.

6. The majority of cases occurred in the spring and early summer.

7. The gastro-intestinal symptoms, especially the diarrhoea are usually the first manifestations of the disease.

8. The ingestion of maize or maize products whether spoiled or not is not alone the cause of pellagra.

9. Patients whose constitutions are depleted by pernicious habits or chronic diseases are not thereby rendered more susceptible to pellagra than those not similarly affected.

10. The backs of the hands are always affected in the cutaneous lesions of pellagra, and the lesions are always symmetrical.

11. Exposure to sun can not account for cutaneous lesions.

12. Stomatitis is almost a constant symptom.

13. The nervous and mental symptoms conform to no known nervous disease or form of insanity.

14. The nervous and mental symptoms form no distinct clinical entity.

15. The eye symptoms are not pathognomonic.

16. Emaciation is practically constant.

17. The special senses are only occasionally affected.

18. Pellagra is not *per se* a febrile disease, and when an elevation of temperature occurs it may frequently be accounted for by a complication.

19. A moderate anaemia is found in most of the cases.

20. The heart, lungs and genito-urinary organs do not seem to be practically affected by pellagra.

21. Examination of urine, feces and blood show nothing pathognomonic.

22. The cause of pellagra is unknown, and the study of these cases throws no positive light on its etiology. Patients may have pella-

gra who do not eat corn products. Sunlight does not account for the condition. In these cases no parasite, toxin, bacteria or insect has been isolated as being the causative factor.

23. The disease is not communicable by ordinary contact.

24. Three great systems are affected, the digestive tract, the cutaneous surface and the cerebro-spinal and peripheral nervous systems, and their involvement seems to be in the order named.

25. Remissions occur in over half the cases.

26. Death frequently occurs in the first attack.

27. It is too early in this country to estimate its mortality. Probably 50 per cent. die in the first two years.

28. In these cases it can not be said that any patient is more than apparently cured, as it may simply be a remission.

29. No specific cure for the disease has been found, and the remedies in general use are of doubtful value.

Since the publication of the above many different drugs have been tried in this disease. Arsenic and atoxyl have been thought to have benefitted some cases; cacodylate of soda and quinine have been tried; hexamethylamine has probably been used more than any other remedy; transfusion has been credited with bringing relief to some desperate cases. Sodium and salvarsan seem to be more efficacious than any remedy yet tried, in some cases.

E. H. Martin, of Hot Springs, Ark., reported to the sixth annual session of the Medical Association of the Southwest on October 10, 1911, his results of the treatment of fifty cases, which seems to bid fair to become an ideal treatment. Time and experience are needed to verify his conclusions. The following are some of the conclusions drawn from the results of his methods:

1. Salvarsan causes no symptoms if properly given to a healthy subject. In short no disease germs, no reaction.

2. The fever following the administration of salvarsan to a case of pellagra, is not due to the drug but to the endotoxins released from the killed germs; and is also diagnostic and prognostic, and further proves beyond doubt that pellagra is a parasitic disease caused by a micro-organism vulnerable to "606".

3. That it is at least reasonable to believe that this organism is a spirochaeta or a spirillum.

4. That the character of the reaction, the duration of the fever especially, shows that the germs of pellagra are located principally in the brain and spinal cord.

5. That the endotoxins released by the destruction of the pellagra germs are so highly toxic to the human host, that the dose of the

drug must be proportioned so as not to destroy too many micro-organisms at one time, or the results may be disastrous to the patient.

6. Salvarsan does not cure a patient in one dose, owing to the invulnerability of the germs at an early stage of development.

7. Prompt disappearance of symptoms shows that the older germs are killed.

8. That small and increasing doses repeated within the time required for the development of the germs from the invulnerable stage to just before the stage of reproduction, give us a reasonable treatment for pellagra, and should offer as much certainty of a cure as quinine in malaria when given with respect to the seventh day.

These conclusions seem to indicate that an ideal method of treatment has been discovered; but lest some physicians might be tempted to try this method without sufficient training in regard to the use of the remedy, I would sound a note of warning that we are dealing with a powerful, deadly drug. A full dose of salvarsan injected intravenously represents an amount of arsenic sufficient to kill fifty men. The technic of the administration must be carried out to perfection in every detail or disastrous results, total blindness or even death may be the result. With perfect technic to proper subjects and with proper intervals no apparent unfavorable symptoms supervene.

Now that pellagra has been raised to the high importance of a national hygienic problem, doubtless many of the obscurities enshrouding it will be removed, and a flood of scientific light will be thrown upon it.

HEPATIC CIRRHOSIS.*

By MAURICE BELL, Monterey.

Hepatic Cirrhosis is a chronic disease of the liver, characterized by a gradual destruction of liver cells and an overgrowth of connective tissue elements, in consequence of which the organ becomes hard and usually small.

The disease occurs most frequently in middle-aged males, but its occurrence in early life is more common than is generally supposed.

The following are the recognized factors in inducing the disease:

1st. Alcohol, the abuse of spirits is the common cause, it is met with oftener in the class who use strong drink continually than with those who abstain from its use, the change results from the irritative effect of the strong solution of alcohol absorbed from the stomach, the fusel oil is supposed to be the offending material, similar effects are doubt-

less produced by other substances such as highly seasoned foods or ptomaines.

2nd. The effect of syphilis produces two forms of cirrhosis, diffused and gummatous.

3rd. Cyanotic congestion. In cases of chronic disease of the heart and lungs the liver is in a condition of persistent venous hyperaemia in consequence of which the central cells of the liver lobules atrophy and there is hyperplasia of the connective tissue.

4th. Malaria. Sclerosis of the liver may follow prolonged malarial poisoning.

5th. Tuberculosis. This rarely if ever is recognized clinically.

6th. In scarlet and typhoid fevers there are localized necrotic areas which must be replaced by connective tissue. In the cirrhosis of early life excluding alcoholic and syphilitic cases, the acute infectious diseases are probably the important antecedents.

7th. Rickets. The enlargement of the liver in this affection is associated with increase in the connective tissue, which surrounds the individual lobules and produces changes in the bile ducts.

8th. Anthracosis. It occasionally happens in coal-miners that the carbon pigment reaches the liver in large quantities, is deposited in the connective tissue about the portal canal, and may lead to a variety of cirrhosis.

Practically on the post-mortem table we see cirrhosis in four well characterized forms: trophic, fatty, hypertrophic, perihepatitis.

In atrophic cirrhosis the organ is greatly reduced in size and may be deformed. The weight is sometimes not more than one to one and one-half pounds. It presents numerous granulations on the surface, is firm, hard and cuts with great resistance. The substance is greenish-yellow islands, surrounded by grayish-white connective tissue.

In fatty cases the fat is increased, the organ is not reduced in size, but is enlarged, smooth or very slightly granular, and resembles an ordinary fatty liver, it occurs most frequently in beer-drinkers.

Hypertrophic Cirrhosis. Enlargement of the liver occurs in the early stage of the ordinary atrophic cirrhosis, but the increase is moderate and largely due to hyperaemia.

In perihepatitis the liver is generally reduced in size, much altered in shape, and everywhere surrounded by a fine, grayish-white membrane, which varies in thickness.

SYMPTOMS.

The abdomen gradually increases to a varied degree. Oedema of the feet may precede or develop with the ascites. The dropsy rarely becomes general. Jaundice is usually slight, the skin has a sallow, slightly icteroid tint. The urine is often reduced in amount and contains urates in abundance, often a

*Read before the Owen County Medical Society.

slight amount of albumen is present, and, if jaundice is intense, tube-casts, the disease may exist without fever but in most cases there is slight fever, from 100 degrees to 102 degrees. Examination in the early stage of the disease may show moderate enlargement of the liver, which may be painful on pressure. Later in the disease the patient is thin, the eyes are sunken, the conjunctiva watery, and the complexion is muddy, or icteroid. On the enlarged abdomen the veins are distended, and dilated veins may surround the navel. When there is much fluid present it is impossible to make a satisfactory examination, but after withdrawal the area of liver dullness is diminished, particularly in the middle line, and on deep pressure the edge of the liver can be detected, and occasionally the hard, firm, and even granular surface.

TREATMENT.

Ordinary cirrhosis of the liver is incurable. The patient should abstain entirely from alcohol, and if possible should take a milk diet, in any case the diet should be nutritious, but not too rich. Measures should be employed to reduce the gastro-intestinal entarrh and the patient should lead a quiet out-of-door life, keep the skin active, the bowels regular, and the urine abundant. In non-syphilitic cases it is useless to give either mercury or iodide of potassium. The ascites should be tapped early and the operation may be repeated as soon as the distention becomes distressing, continuous drainage may be employed. Sulphate of magnesium, elaterium, compound jalap powder, bitartrate of potassium, digitalis, and iodide of potassium, may be given.

MIGRAINE OR HEMICRANIA.*

By Wm. B. SALIN, Owenton.

Migraine is a paroxysmal headache, usually unilateral, and often associated with gastric and visual disturbances, at times continuing only as long as the sun is above the horizon and hence sometimes called sun-pain.

PATHOLOGY.

In the majority of patients the nervous predisposition to migraine is inherited, women and the members of neurotic families are most frequently attacked.

Among the many exciting causes are disturbances of digestion, sexual excesses and eye-strain.

A gouty or rheumatic taint is present in many instances.

Migraine has long been known to be associated with uterine and menstrual disorders.

We often find cases in connection with adenoid growths in the pharynx and particu-

larly with abnormal conditions of the nose, therefore the nostrils should be examined with great care. Sometimes the eating of some particular article of food may be followed by a headache of the hemi-cranial type.

Now, the commonest exciting cause of migraine is overtaxation of the nervous system, and on this account migraine belongs to the worrying and restless period of life and then declines with repose of old age.

SYMPTOMS.

Attacks of migraine occur in irregular paroxysms, the intervals between being free from pain or nervous disturbances. A paroxysm of hemicrania is often preceded for a day or two by a sense of unusual depression, both physical and mental. The paroxysm is frequently ushered in by certain disturbances of vision. Frequently there is spasmodic action of the pupil on the affected side, which dilates and contracts alternately, the condition known as hippus.

There is a feeling of fatigue or mental depression without apparent cause, heaviness over the eyes, flatulency and indigestion. Numbness of the tongue and face and occasionally of the hand and may occur with tingling.

The attack proper is ushered in by chilliness, yawning, nausea, often vomiting and general muscular soreness, flashes before the eyes, vertigo, and pain of a sharp shooting character of great intensity and persistency, localized most frequently over one eye, sometimes in a small spot on the left side and then extending over the entire half of the head. It very seldom affects the right side and still more rarely affects both sides at the same time.

The pain may begin at any time of the day, but usually comes on in the morning.

The pulse generally is slow. The temporal artery on the affected side may be firm and hard and in a condition of arterio-sclerosis.

PROGNOSIS.

Few affections are more prostrating than migraine. The attacks may continue with more or less intensity from a few hours to a couple of days, the average duration being twenty-four hours.

In women the paroxysmal headaches frequently cease after the menopause, but they often continue to have headaches but different in character from those which they formerly suffered, as a rule in both men and women the attacks of migraine are replaced by neuralgia, usually in the supraorbital branch of the fifth nerve, while few cases of true migraine are permanently cured, the affection is free from danger to life, generally the attacks decline as the person advances in years. It being rarely seen after fifty years of age.

*Read before the Owen County Medical Society.

TREATMENT.

Treatment should be directed towards the removal of the condition upon which the attack depends and I believe that prophylaxis is one of the main indications in the treatment of this complaint. Avoidance of excitement, regularity in meals and moderation in diet are important rules. Cases have been greatly benefited by a strict fresh green vegetable diet, avoiding potatoes, corn, cabbage and tomatoes. Diet is a matter of great importance, therefore the digestive abilities of each patient must be carefully studied. What is indigestible for any person is by that person to be avoided, but no special rule for this purpose is found except that if any article, either of food or drink, is tasted again in an eructum from the stomach it is a notice from the stomach that it does not want any more of that stuff. The neurotic patients should be given up tea, coffee and tobacco, yet there are some patients who claim they can ward off an impending attack of migraine by taking one or two cups of strong coffee.

As much out-door exercise is to be taken as possible, and hot baths taken two or three times a week.

The first thing in the medical treatment is to regulate the bowels, to promote intestinal antiseptics and stimulate the liver.

The therapeutics of migraine naturally divides itself into medications for the paroxysm and the treatment during the intervals. The most useful remedies during the intervals are tonics and nervines. In anemic or chlorotic patients, iron and arsenic should be given for a length of time, cod-liver oil if the stomach will tolerate it, is of prime importance.

The hypophosphites of lime, strychnine, iron and quinine is a useful preparation, in some cases the stomach will bear a simple solution of the hypophosphites without sugar better than the syrup and I prefer to give them in this way.

The various salicylates are useful. In this as well as in other varieties of headaches it is of great importance to keep the secretions free and if there is a tendency to constipation mild laxatives should be employed and the occasional use of podophyllin or a mercurial is of advantage.

When the tongue becomes furred and there is a dull headache with loss of appetite, dilute nitro-muriatic acid acts at times as a specific.

During the paroxysm the patient should be kept in bed and absolutely quiet.

For treatment of the paroxysm a large number of remedies have been advised.

The different combinations of the bromides are useful.

The coal-tar products are now greatly em-

ployed in the treatment of headaches of various kinds, those of principal importance are anadol, phenacetine and acetanilid.

Cannabis indica is probably the most satisfactory remedy, in controlling the paroxysm. Extract cannabis indica 1-6 to 1-4 gr. may be combined in a capsule with sodium salicylate or salol after meals. Cannabis indica may be combined with nux vomica and ergotone, especially where there is a hyperemic condition of the brain. Many times we have to use morphia and atropia hypodermically to abort an attack.

Besides the internal remedies of which I have spoken there are a number of external applications, which have given some relief in certain cases. The application of heat or cold to the head sinapisms or other counter irritants.

LACERATION OF PERINEUM; PREVENTION AND TREATMENT.*

By J. C. B. FOSTER, Monterey.

This is a condition that all physicians have encountered, at least if they have done much obstetrical work. These lacerations have been divided by some authors into three classes: complete, incomplete and central; the last named I will not consider from the fact I do not see how there could be a central rupture without first having a tear of the vulva. However we will not take issue with the views of others better qualified than myself making the statement, but will say that I never saw the form of the injury.

The complete form begins at the vulva extending down and through the sphincter ani muscle; the incomplete begins at vulva but not involving the sphincter muscle.

As to the cause of the trouble, I believe that the state of the patient's bowels have something to do with it; having noticed that when constipation existed during the entire pregnancy I almost invariably had some form of laceration usually of the incomplete variety. It is rather difficult to state from personal experience what per cent. of obstetrical cases are victims of this calamity. I believe I would be safe in making the assertion that with myself in cases of primipara one-fifth or perhaps more have in some degree undergone this mishap. I don't think my estimate too high, taking my own cases as a basis from which to draw conclusions.

Other causes might be mentioned, viz.: smallness of vulva and rigidity of muscles.

Complete laceration is far more serious than the incomplete form, often being followed by inability to retain feces which is certainly a deplorable condition; nevertheless

*Read before the Owen County Medical Society.

cases are on record where complete rupture have recovered spontaneously, this is by no means the rule, surgical interference almost invariably being a necessity. The writer had one case of this kind to come under his observation, being called in consultation with two other physicians and the poor, unfortunate victim is to-day a living monument to our discredit, having never been cured. She was operated upon two or three times by a renowned specialist with negative results.

We now pass to that part of our subject designated, "Prevention of Laceration."

In most obstetrical work, or at least some, the practitioner is advised to endeavor to prevent laceration by a method described as supporting the perineum by laying the palm of the hand against the distended structures and making firm pressure against them during labor pains, with the view thereby of mechanically preventing the rupture of the parts. This plan was followed by myself for many years, of late I have abandoned it to a great extent, believing it to be an erroneous idea. It looks unreasonable to expect any mechanical aid to render us any assistance, in fact I believe that we not only fail in this attempt to prevent a tear, but rather favor the production of it, producing increased action of uterus just at a time when the distention of the perineum is likely to prove hurtful. I think that the perineum should be left alone and the head of foetus, or the presenting part, allowed to gradually distend the parts without any mechanical assistance on the part of the doctor.

My view of late is that we should look more towards the relaxation of the perineum, and with this object in mind, we can be of more service to our patient in the way of prevention than any other course we might pursue.

As a means of prevention some have advised incision of perineum to prevent spontaneous laceration. This may be done in safety but I question the advisability of the procedure. I think that it is a duty of every physician who has been called upon to attend a case of confinement, especially if he has been notified a few months prior to confinement, to question the party closely as to the condition of the bowels, and if they are not thoroughly evacuated, should be washed out with enema of soap suds and castor oil and if there seems to be much rigidity of the parts use hot fomentation and liberal use of belladonna ointment applied to parts, by so doing we can accomplish much toward the prevention of lacerated perineum.

As to the treatment of this condition the incomplete variety which includes a greater number of all primiparous cases few escape a slight tear but fortunately for both physician and patient, this kind need little or no

treatment. Keep knees tied together for a few days following confinement, and pay due regard to strict cleanliness, but where the injury is more severe extending down to or involving the sphincter muscle, then an operation of some character is expedient, and should, in our opinion, be done immediately. Some advocate that the operation be delayed for several days until all swelling and inflammation subsides, claiming that the lochial discharges and the puerperal state often prevents successful results. However, we are inclined to take a different view of the matter, and think that immediately after delivery, or as soon as convenient, is the most opportune time to repair the injury done. The sensibility of tissue is deadened by the prolonged distention to which they have been subjected and the sutures can be inserted with little or no pain. The rule being that union by first intention almost invariably follows. Whereas, to prolong the operation the edges of the wound necessitate patching up, also requiring an anesthetic, rendering the operation in every respect a more difficult one.

CROUPOUS PNEUMONIA.*

By J. L. Cox, Campton.

Pneumonia is an acute, croupous inflammation, involving the vesicular structure of the lungs and rendering the part affected impervious to air, and is characterized by a severe chill, headache, fever, thoracic pain, dyspnoea, cough, great prostration, and the rusty sputum.

CAUSES.

Croupous pneumonia is caused by the diplococcus pneumoniae, of Fraenkel, and produces its chief effect upon the lungs; although sometimes other microorganisms seem to occasion typical fibrinous pneumonia, such as the pneumococcus of Friedlander, streptococci, staphylococci, the bacillus of typhoid fever, or influenza, and the bacillus coli communis, and in some cases, of course, there is mixed infection. It is a disease prevalent in all ages, unlike most infectious diseases one attack predisposes to another, and renders an individual more susceptible. The affection is most frequent in winter and sometimes appears in epidemics. Alcoholism is the most common predisposing factor, exposure to draughts of air and cold, gout, rheumatism, diabetes, Bright's disease are also probable causes.

PATHOLOGIC ANATOMY.

The most frequent seat of pneumonia is the lower right lobe, the next is the lower left lobe, the next is the upper right lobe, but in children and the aged this lobe is affected as

*Read before the Wolfe County Medical Society.

frequent as the lower right lobe. The changes are 1st, hyperemia, or stage of engorgement; 2nd, exudation, or red hepatization; 3rd, resolution, or gray hepatization. The stage of hyperemia, which lasts from one to three days, consists in distention of the vessel, lessening the capacity of the air vesicle, the lung has a reddish brown color, is more resistant, is heavier, and having a slight exudation upon the vesicular surface. The same changes take place in the adjacent bronchioles.

Second, The stage of exudation which lasts from three to seven days, consists in the exudation of a viscid, fibrinous fluid containing blood which rapidly coagulates, and when this is completed the lung is red and its elasticity is destroyed.

Third, Resolution, or gray hepatization, which lasts from one to three weeks, follows in the majority of cases. The coagulated exudation undergoing liquefaction and absorption. The cellular element undergoing a fatty degeneration the greater part being absorbed, the remainder expelled during the act of expectoration.

In retarded resolution sometimes portions of the exudation undergo purulent transformation and is called yellow hepatization.

Abscess of the lung may result from the lung structure becoming involved in the purulent disintegration and are sometimes in great numbers which by disintegration coalesce and form one or more large abscesses which open into the bronchi and are expelled, or terminate fatally.

SYMPTOMS.

The affection begins with a severe chill, followed by a rapid rise in temperature, 103 or 104, pulse strong and full but rapid, there is also either a dull or a sharp pain near the nipple, aggravated by pressure, breathing or coughing, shortness of breath, inspiration short and superficial, the expiration accompanied by a grunt or a groan, the number of respirations increasing to 40 or 50 or even higher per minute, causing interruption of speech; the cough at first short, ringing, and harsh followed by a scant frothy expectoration, and about the second day becomes the rusty sputum, the quantity is increased and a yellow color is assumed as the disease advances. In rare instances we have the blood streaked sputum throughout the disease. From the very onset the prostration is of the most pronounced character, the countenance is flushed, especially over the malar bones there are a well defined mahogany blush, the lips are more or less blue, and perhaps may be observed, epistaxis, headache, sleeplessness and gastric disturbance are common, the tongue is coated, the appetite impaired and, there is constipation; delirium is sometimes

present, and when occurring early is a very grave sign; the fever usually reaches its maximum within 24 hours and continues high until either the fifth, seventh, ninth or eleventh day, when a crisis occurs and within 24 hours the symptoms are decidedly lessened, the fever absent, and convalescence is established followed by rapid recovery, occasionally, of course, the termination is by lysis.

I leave out the physical signs, clinical varieties, terminations, differential diagnosis, etc., and take up the more important part, the treatment.

TREATMENT.

If pneumonia be regarded as a constitutional disease, with its local lesion, then the consolidated lung no more calls for treatment than does the typhoid ulcer of the bowels. The general condition of the patient should govern the management of the case and not the local changes in the thorax. A healthy person attacked with a moderately severe case of pneumonia, where there are no complications, requires no more active treatment than any of the so-called self-limited diseases. But, gentlemen, I am of the belief that the proper treatment administered at the proper time, e. g. in the first stages, certainly cuts the disease short or rather aborts it. My plan of treatment is as follows: The patient should be placed at rest in bed in a moderately heated and well ventilated room, and protected from all draughts. The diet should be the most nutritious, such as milk, broths, eggs, etc., and given about every three hours at the onset of the disease while the pain is severe. I always give 1-4 to 1-2 grain of morphine, hypodermically and if the heart is weak from the onset, I also employ glonoin or strychnia, and, gentlemen, let me say right here that it is good practice to continue strychnia throughout an attack of pneumonia. I then give from 5 to 10 grains each of calomel and soda and follow with a saline, give from 2 to 5 grains of quinine every three or four hours, and to give rest and to lessen the pain, you will find that 5 grains of Dover's powders, given every four to six hours, will give better results than any other preparation you can give although we have several others very highly recommended, such as sulphonal, trional, chloral, the bromides, opium, etc., but Dover's powder will also relieve the cramp, to lessen the temperature and irritableness, small doses of tr. aconite combined with sweet spirits of niter and medium doses ofgelseminum, the cotton jacket applied to the chest is very good but poultices are of slight value, unless it is of ice applied directly over the affected area.

In the aged, or those accustomed to the use of alcoholics, stimulation should be kept up

from the beginning of the attack. Other indications would be frequent, feeble, irregular, or intermittent pulse, dicrotic pulse, delirium, muscular tremor, and subsultus, immediately following crisis, and the period of collapse.

During convalescence the diet should be highly nutritious and the general tonics employed, the best of which in this case is the iron quinine et strychnia.

In addition to the foregoing, I would like to report two cases of pneumonia, which have come under my observation, complicating measles. One of which was a very rare case, and extremely interesting. Seen also by my father in consultation, but which at the time it was seen by him it seemed as though recovery was probable, especially to one who had not been in regular attendance, and seen the sudden changes and variations which took place. Boy, 8 years old, took measles, and during the stage of desquamation developed pneumonia fever, which ran a very moderate course, both lungs being affected. The upper lobe of the right lung, and the lower lobe of the left lung. For the first nine days the temperature ranged from 103½ degrees down to 101½ degrees F. On the tenth day the temperature dropped to one below normal, and remained so until the twelfth day, with a pulse rate of from 120 to 140, governed by the amount of fever as to fullness, etc., and the respiration was from 28 to 40 per minute, and when seen on the thirteenth day had developed brain fever, which, by the way, had been showing signs of irritation of the Basilar lobe during the time after convalescence was established from the pneumonia, e. g. at intervals, of course, and I attributed it to worms and gave treatment accordingly, and was rewarded by the passage of about 67 worms in all, and all symptoms of irritation subsided perhaps twenty-four hours before the development of the brain fever. At that time the boy had been confined to his bed a little more than three weeks, and was, of course, weak and emaciated, and my prognosis was grave immediately I saw him after the development of the brain fever, although the best and most reliable routine of treatment, in my opinion, was pursued, but after the first six or eight hours did not respond, but on the contrary gradually lost ground, until the stage of convulsions was reached, and died at the end of the third day.

As my paper is somewhat lengthy I will not go into detail of the second case, but will state that it was a very similar case of pneumonia complicating measles, except the fever ran a much higher course and after convalescence was established, about the end of the eleventh day, went on to an uninterrupted recovery.

CHOLERA INFANTUM.*

By W. H. Hobbs, Rogers.

DEFINITION.

A variety of acute catarrhal enteritis of intense severity corresponding in symptoms and course to cholera morbus in adult but much graver in termination.

It differs from other intestinal troubles and is therefore considered separately.

ETIOLOGY.

The same reasons that would lead us to suspect a specific cause in cholera morbus in man would lead us to suspect a specific cause in cholera infantum in children, but yet none has been found. It generally is ascribed to a toxine generated in the decomposition and fermentation of foods. Since some error of diet is almost always the exciting cause, still there is predisposing causes; namely, extreme hot weather, dentition, or both; bad hygiene, the previous presence of dyspeptic diarrhea, enterocolitis, or a delicate constitution.

Cholera infantum just includes a small per cent of other summer complaints in children, according to Holt, 2-12 to 3 per cent.

MORBID ANATOMY.

There is little of any deviation from the normal appearance in the affected bowel.

SYMPTOMS.

These consist in copious serous stools at first containing some offensive fecal matter, later becoming almost aqueous, being ejected, as a rule, with great force. The stools contain numerous bacteria but no constant bacteria has ever been isolated; there is crampy pains and the limbs are drawn up, or rigidly extended, also high fever reaching 104 to 105 degrees F.

Restlessness is a characteristic symptom; this usually begins with other severe symptoms; the temperature should not be taken in axilla, as it sometimes becomes very misleading; skin sometimes feels cool with a high internal temperature, therefore we should rely on rectal temperature. We also have intense thirst, and the child eagerly drinks water.

We also have obstinate vomiting, which may come on simultaneously with the purging and at first there is some bile in the vomit, but later it becomes serous. Tongue at first is coated but later becomes dry and red, the child rapidly loses strength and weight, the loss of weight in this disease is more rapid than in any other pathological condition of childhood. The restlessness may be succeeded by apathy and indifference, and this condition soon passes into collapse.

*Read before the Lee County Medical Society.

The eyes become sunken, the fontanelles depressed, skin gray or ashen, and when this condition is once seen by a physician is never forgotten; those severe symptoms may subside and a stage of torpor or semi-consciousness may supervene; the head is retracted and convulsions may occur; the breathing may be disturbed, the pupils irregular and the clenching of the fingers. These are the brain symptoms which are at times misleading to the inexperienced, but they are not associated with changes in the brain nor in its meninges, but may be due to toxins developed in the intestines by bacteria.

DIAGNOSIS.

This is not difficult, the serous vomiting and purging, rapid evacuation and prostration and the hyperpyrexia and the nervous symptoms following conferring the diagnosis.

PROGNOSIS.

This should be guarded, and if a prognosis is given let it be a grave one, for in twenty-four to forty-eight hours the child may be dead or it may make a turn for the better. Mortality in this disease is from 60 to 70 per cent. We should be guided in our prognosis by the condition taken in the constitution of the child and the form of attack, etc.

TREATMENT.

First, prophylaxis. Much can be done, all the general rules of infant feeding in summer complaint and other intestinal troubles should be strictly enforced. If this was done and these rules were not so often overlooked by the nurse or sometimes the physician, many children would be spared the dreaded disease.

MEDICINAL TREATMENT.

The best results in this treatment will be gained if we keep in mind that we are not treating intestinal catarrh, nor inflammation, although this may ensue, but we are treating a case of poisoning and the great depression caused by this toxine to the heart and nerve centers and kidneys draw our attention.

The main indications for treatment are:

- 1st. Empty stomach and intestines.
- 2nd. To neutralize the effect of this poison upon the heart and nerve centers.
- 3rd. To supply fluid to the body to make up for the great drain of the discharges.
- 4th. To reduce the temperature.
- 5th. To treat special symptoms as they may arise.

In complying with the first indication, if stomach is not emptied by vomiting wash out the stomach and to clean out the lower bowel a large soft rubber catheter can be used, introduced high up in the colon.

To meet the second indication, there is nothing better that I have ever used than morphia

and atropine hypodermically in doses of morphia gr. 1-70 to atropine gr. 1-600, repeated hourly until the result is obtained that is checking the vomiting and purging. There are lots of other remedies laid down to be given, but as a rule they vomit so frequently that medicine given by mouth does but little good.

The above treatment is contraindicated where the purging is checked, or scant, and where we have drowsiness and stupor.

To meet the third indication, in extreme cases when needed we should inject a half pint to a pint of the normal saline solution into the loose cellular tissue of the thighs, abdomen and back; the above amount should be used every twelve hours or during each twelve hours.

To meet the fourth indication, cold bath is the best to lower the temperature and if we can not give a cold bath use sheets wrung out of cold water and wrap child up in them.

Fifth, to meet special symptoms many stimulants may soon be needed. Brandy, small dose, frequently camphor, strychnin, hypodermically, and in extreme collapse, hot baths, hot-water bottles, mustard paste, etc. When convalescence is established food should be administered with due caution: barley water, small quantities of beef juice, peptonized milk, dilute egg albumen and gradually increase to more solid foods.

GENERAL SYMPTOMATOLOGY AND DIAGNOSIS OF DISEASES OF CHILDREN; WITH DISCUSSION OF COLIC AND SUMMER COMPLAINT.*

By W. C. CONNELLY, Salyersville.

In examination of children, especially those too young to talk intelligently, a method different from that we are accustomed to using in adults must be used. As the young child can tell nothing we must rely on the parent or nurse for the history and we should be careful not to confuse the person giving the history with the questions till she has told all she knows or can think of about the sickness, then with this information we can readily interrogate with questions that will enable us to make a more full and complete history of the child. On the history of the child much depends and we cannot be too careful in obtaining it. Many times a history of the parent is absolutely necessary for positive diagnosis of the disease of the child. If syphilis or tuberculosis is suspected the history of the parent brings out much that would otherwise be hard to determine. As nutrition is such an

*Read before the Magoffin County Medical Society.

important factor and produce such severe and many times obscure symptoms we should obtain all the details concerning the food, whether or not it is being nourished by the mother's milk and if so character and amount of same or if nourished by cow's milk we should acquaint ourselves with the formula and try to determine whether it should be modified, and if so how much and what such changes will produce.

Carefully ascertain the condition of the bowels through the frequency, color and character of the movements. It is also important to find out the condition of the kidneys—frequency and character of the urine should be determined. The history of dentition is very important condition of child during this period and whether or not dentition was abnormal or difficult. All facts relating to the growth and development of the child is important. In obtaining the present illness learn the exact character of its onset, time of duration, presence or absence of fever, restlessness or pain with its character. The position which the child assumes while asleep or awake, its cry, the interest it takes in its surroundings, together with all the special symptoms are of the utmost diagnostic importance. When the illness has lasted sometime or has become actually chronic always inquire into the history of both father and mother for history of syphilis, tuberculosis or other disease which might be inherited. The appearance of the other children, if any, might be helpful in the diagnosis. The posture assumed by a child is quite significant of its condition. Before the age at which a healthy child can sit up it will lie quietly or move its limbs in the same manner as during intrauterine life and it seldom cries except from hunger or when the napkin needs changing. When asleep it may occasionally lie on its back although the usual position is on one or the other side with its thigh, legs and arms flexed. Healthy infants invariably sleep with the mouth closed, breathing through the nose and the breathing is regular, gentle and accompanied with little if any play of the alae of the nose. The most common cause of disturbed sleep in the child, under four months old is indigestion, although as the period of dentition approaches disturbed sleep may be a symptom of the onset of this condition.

Syphilitic or rachitic children are poor sleepers at any age, usually, but most children can be made to sleep better by close attention by the parent through the day as many times they are allowed to fill up on some heavy food before going to sleep or probably, after children are a year or two old, some sudden fright that has occurred during the previous day may cause night terror or nervous excitement.

There are some diseases of children that have a more or less typical posture and expression of the face, as in affections of the gastro-intestinal tract, we find that the child is restless, crying and peevish resembling that of hunger and is kept up except for a few moments after taking food. Then we see rapid emaciation, especially of the face, limbs and all except the belly which becomes larger. The eyes are sunken and staring, with deep hollows surrounding them, due to the absorption of orbital fat and probably also to muscular relaxation. The child gives an appearance of limpness and loss of tone. The expression of the mouth is one of disgust and around it in chronic cases is frequently seen a blue line. In diseases of the respiratory system of which we may consider bronchopneumonia a type, the child's face is flushed, the eyes are bright but the facial expression is dull, anxious and full of pain. While nursing the child drops the nipple frequently to breathe, attempts to cry but catches its breath, suppresses its cry because of its pain and coughs with a short catchy, grunty cough. The cry is short, hoarse, suppressed and intermixed with coughing. The breathing is rapid and labored. The skin is hot and dry and may be pale, reddish or somewhat bluish if cyanosis exists. There are many other diseases with characteristic symptoms as the "mouth-breather" with the dull vacant expression. The looks readily diagnose adenoids. The spinal diseases, meningitis, etc., also have symptoms peculiar to themselves.

In the study of pediatrics we have a clue and a very good one, too, of testing our knowledge of physical diagnosis. We may appreciate a good knowledge of physical diagnosis more in the practice of pediatrics than any other subject, because on examination of the child we must determine the cause and effect without the information that can be had if the subject were older and able to tell us what effect certain principles of physical diagnosis, palpation, percussion, etc., produce. In diagnosis of children's diseases we can well use all the principles of physical diagnosis, inspection, palpation, auscultation, percussion, and mensuration.

The divisions of a child's life is of much importance in the diagnosis and treatment of diseases, for we find certain diseases corresponding with a certain age of the child. The divisions that most authors make in the different stages of the child's life are: 1st, infancy up to the second year; 2nd, childhood from two to six and a half years, and 3rd, youth from six and a half years to puberty. Taking this division I have classified the diseases of the child as follows:

1st. Infancy, (up to second year) we have

to deal with asphyxia, cutting the cord, caput-succedaneum, cephalo-hematoma, care of child for first month, cries of children, colic, cold, thrush, croup, infant feeding, cutting of teeth, and rickets.

2nd. Childhood, (from two to six and a half years) we find cholera infantum, summer complaint, gastric troubles (of all kinds), worms, diphtheria, emuresis, and nervous diseases.

3rd. Youth, (from six and a half to puberty), we find: The various contagious diseases, meningitis, tuberculosis, rheumatism, erysipelas, and eczema.

We, of course, do not always find the different diseases under this particular classification but generally speaking I think we find them about in this order, anyway for the sake of classification I have so divided them.

COLIC.

There is no disease that causes so much suffering to the child, for the first few months, and perhaps the first year, as colic. This being true we should make every effort to determine just what is causing the trouble and try, if possible, to correct it. Colic is usually caused by flatulence due to undigested food—chiefly milk too rich in proteids, or if milk is over rich in fats it will cause colic. It is considerably more frequent in bottle-fed babies than those fed from the breast although we find it among children raised from the breast, if the natural milk supply is limited in quantity or if the colostrum milk has lasted beyond the usual period, or the diseased mother's milk will give the child colic. Pregnancy or menstruation in the mother may cause her milk to give the child colic or letting the child nurse soon after sexual intercourse may give the child colic. Or on the part of the child a natural enfeebled digestive tract or general nervous system is a predisposing cause of colic as is also dentition.

The cry of colic is very loud and the knees are flexed on the abdomen, cold hands and feet, abdomen tense and the eyes are usually closed. The child invariably wants to nurse or eat and on taking warm food it may be relieved for a few moments but in a short time it returns more violently than before.

TREATMENT.

First relieve the child of its present pain and then remove the cause if you can determine it. Colic in the stomach may be relieved by sitting the child upright so the gas can escape and give it very hot water or hold the child in the arms with abdomen over shoulder and tap it on the back. If this does not relieve it a few drops of Hoffman's anodyne or camphorated tinct. of opium will relieve it, or an enema of half pint of luke warm water, or

some turpentine and glycerine or some asafoetida may be added. Then the bowels should be regulated with small doses of castor oil or some laxative should be given and if this fails to give relief we are pretty certain that the colic is due to too much casein in the milk. This may be met very promptly by the following formula:

R.

Sodii. Phosphatesdr. i
Syr. Rhei. aromat.ozs. ii
M. ft. sol.

Sig. drs. one every two hours.

This usually gives results in two or three doses after an attack. Small doses of calomel are recommended by some and pepsin and sodium bicarb. between attacks if child has weak digestion.

Attention to the food, properly regulating diet, the colic usually disappears of itself.

SUMMER COMPLAINT.

It occurs in summer time and is due to bacterial growth, and usually enters the system through the milk. The bacteria first produce changes in the milk and then act on the mucous membrane. The stools are green, very frequent, and have bad odor.

TREATMENT.

First get rid of the bacteria by giving castor oil; second, keep the bacteria out; third, destroy those that are in the bowel by making the culture media unfavorable to their growth. Then take away the albuminous diet, but if the stools are very acid you had better stop the sugar and it is well to stop all food for twelve hours, then give food different from that which has been given. Barley water and rice water for twenty-four hours are good, but if the stools are very acid put back on albuminous diet again.

For frequent, offensive stools give:

R.

Calomelgr. i
Bis. Subnitratedr. ii
Pepsin Sacch.dr. i
M. ft. powders No. xii. Sig. one every two hours.

Bismuth is very fine as we know that bismuth subnitrate breaks up into bismuth and nitric acid and bismuth subcarbonate breaks up into bismuth and carbonic acid and bismuth subgallate breaks into bismuth and gallic acid and bismuth salicylate into bismuth and salicylic acid. As they serve as the best antiseptic they are very essential in the treatment of summer complaint.

A very fine prescription is:

- R.
 Saloldrams ss
 Glycothymolinedrams iv
 Bis. Subnitratedrams ii
 Elixir Lac. pep.qs. ad oz. ij
 Sig. Teaspoonful every two hours.

For liquid stools the following is good:

- R.
 Bis. Subnitrate.....drams. iij
 Tanalbindrams. ss
 Mucilage acaciaeoz. ss
 Elixir peptenzine qs. ad ozs ii
 M. ft. Mixture.

Sig. Drs. one every two hours.

The above is to stop liquid stools at night when no antiseptic is wanted.

And another very fine prescription is:

- R.
 Sodii Sulphocarbolate .i.gr. xij
 Sodii Carbouatisgr. xij
 Wine of ipecacdr. ss.
 Tr. Hydrastisdr. i
 Syr. Rhei Aromat. qs. ad oz. ij
 M. ft. Sol.

Sig. Teaspoonful every two hours.

Hydrastis is very valuable in catarrhal mucous membranes, and all other inflammations as a tonic. After this prescription give sulphocarbolate of zinc in doses of about one-eighth to one-sixth grains at a dose every three hours, as this is better than bismuth as a an astringent.

THE RELATIVE DUTY OF THE MINISTER.*

By REV. W. J. MAHONEY, Madisonville.

I accepted the assignment of this subject several days ago and fully expected to be prepared for its discussion. However, because of the press of my various duties, I am here without a prepared paper. I want to suggest, though, some things which have occurred to me. I may say in the beginning that this is a subject about which I know very little and I am not qualified to discuss it elaborately. I asked my friend, Dr. Sory, to give me a few points that would be of help to me, but he had no suggestions to offer.

First. That the ministry must have some intelligence concerning the conditions and ills that affect the public health. This must be more or less general since he cannot specialize as does the physician. It is the physician's business to know so that he may deal intelligently with these conditions and remedy these ills. The minister, as a public servant, should seek information that he may intelligently co-

operate with the physician when necessity and opportunity arises.

One thing that has interested me in the last few years, particularly, is the spread of tuberculosis. I believe that the ministry needs to know as much as can be learned, in a general way, concerning the infectious character of this dread disease as well as the conditions favorable to its rise and spread. I have sought to inform myself as fully as is possible for me to ascertain the facts in the case. Dr. Sory will tell you that I am constantly asking him questions and reading his medical journals upon this subject. I read and discuss, as often as I get the opportunity, concerning the general nature and infectious tendency of this disease for the reason that I want to contribute my mite toward improving the conditions and aid in preventing the spread of the White Plague. I am told that correct measures can be employed and hygienic improvements can be made looking toward the decrease and prevention of this disease. The ministry ought to know this and if they are so informed they can effectively aid the medical profession in preventing the spread of this disease.

Second. He said that the ministry needed to be appreciative of the responsibility, the sacrifice and the efficiency of the physician,—and emphasized the fact that the Savior was the greatest physician; that He not only preached and taught but healed many who were sick. The speaker dwelt upon the point that the physician who had caught a true vision of his calling accounted it a ministry unto the Lord; that the greatest factor in the world next to a truly consecrated minister, is a consecrated Christian physician in the office and in the sick room; that the Christian physician can make and should make his work coordinate with the work of the ministry.

Third. He spoke of the *co-operation* that should exist between the ministry and the physician in matters of public health; that the voice of the pulpit assists in enforcing the voice of the physician; that in visiting the sick of his congregation, he always asked the name of the practicing physician and spoke a word of praise as to the ability and merits of the physician that he might inspire even greater confidence in the physician—the word of depreciation should always be withheld. The minister, in his visits to the sick, should always be sunny and sympathetic, not doleful and funereal.

[The stenographer failed to get much that was said by Mr. Mahoney, because of the rapidity with which he spoke.]

*Read before the Hopkins County Medical Society.

THE RELATIVE DUTY OF THE DENTIST.*

By E. B. HARDIN, Madisonville.

What are dentists as a profession doing to advance their specialty in relation to the general health of the nation? I hold every man is a debtor to his own calling, profession or a vocation in life, makes no difference what it may be. In this the twelfth year of the Twentieth Century, we are living in an age of absorbing anxiety of specializing and its not in a degree of egotism, spirit of bragadocio or bravado that I assert to you, that the profession of Dental Surgery is to-day second to no specialty on earth and we only pay homage or profound respects to one greater profession when it comes to the preservation of human life, and that is to the general practitioner of medicine.

In no branch of science to-day is there such an awakening as in medicine. We can only judge people by what they might be, not what they are or will be. It has been said that it is only the ignorant who despise education. Now in these stirring times of medical activity and progressive evolution, the question naturally asked is, "What is the dental profession doing in the great work of elevating conditions, sanitary, physical and mental for the promotion of health for the masses?" Well, we dentists are sentinels as it were, standing guard at the very orifice of the human anatomy, right at the threshold of the so much talked of alimentary canal. We claim good teeth are the first step to good health, and bad teeth are very instrumental in the cause of ill health, for it is within the oral cavity where food comes in contact with the first essential in the great process of digestion, and if our food is not thoroughly and properly masticated before leaving the mechanism nature intended for that work, we can hardly hope for, nor reasonably expect it digested and assimilated after reaching the stomach. Hence it is of paramount importance that the dentist be consulted at regular intervals and a minute detailed inspection made of the mouth and such treatment and repairs as he may advise, be submitted to.

As a profession, we appeal not to the individual alone, but to the parents in behalf of the children for the future welfare of their teeth; care and attention to the deciduous or milk teeth, not for comfort to the little patient for the time being, but to insure beauty, contact, occlusion, approximation and efficiency in the permanent arch. In the cities where dental inspection and dental service has been inaugurated in the public schools and the necessary work done, reports and statistics go

to show an increase of from 10 per cent. to 20 per cent. in general deportment both mental and physical in those so treated.

We dentists stand to-day as we have always done with uncovered heads to our older brothers, the medical men, and we can, and will co-operate, stand shoulder to shoulder with them, also the teachers in our public schools and colleges, the ministers throughout the country and all others who are enlisted in the noble and glorious work of building up the public health, thereby preserving and prolonging life. You may think it absurd, but not ten persons out of thirty in adult life have a perfectly healthy mouth, and not one out of ten has a mouth clear and free from pus at anytime. We as a profession can prove this. Now with all the scare of germ life, bacteria, the parasite and bugology handed us by the bacteriologist, pathologist about the tubercular bacillus of consumption, pneumococcus of pneumonia, the streptococcus pyogenes aureus, etc. Now as we know the normal saliva to be a splendid medium for multiplying germ life as to temperature, and when the mouth becomes abnormal by the presence of cavities and dental caries, gingivitis or inflamed and ulcerated gum tissue, through neglect, it serves as an ideal incubator for producing micro-organisms, and with a mouth full of countless millions of germs, how can we hope to eradicate them successfully, only by the aid of the dentist.

We American dentists claim to lead the combined world in our science, and to-day we present an array 40,000 strong ready, willing and delighted with our electric appliances, hoe, shovel and hatchet, excavators, etc., to help you clean out, clean up and repair, treat the gums, the oral mucous membrane, fill cavities, crown broken down roots and in every way adjust them for the purpose for which nature intended.

With the aid and instruction of our late chief chemist at Washington, D. C., the renowned Dr. H. W. Wiley and one Horace Fletcher of which the associated press and current literature is clamoring so much on what, when, where and how to eat, we as enlightened people ought to feel justly proud of our national ethical dental fraternity and look to them as friends in need and indeed, and we who constitute the profession, using the language of the apostle Paul who ought to have been free from debt, yet during the epoch and reign of Saul of Tarsus said he was a debtor to everybody, both Greek and Barbarian, and as a profession we owe a debt of gratitude to the world at large who have so loyally stood by us during our experimental stage, helped us as an embryo, patronized us as an infant until now we stand alone one of the leading arts of modern times. (Our work

*Read before the Hopkins County Medical Society.

is an epistle known and read of all men). Nor does our debt consist of gratitude alone. We should study to show ourselves approved unto our clientele, be workmen that needeth not to be ashamed, desirous of being real benefactors to mankind, giving to our patients what we would want if we ourselves were the victim. It is said by our medical brother that to laugh, to be happy and mirthful aids health. We think so and as dentists claim to be laugh and smile producers (of course, everybody won't agree.)

Now if you have pretty, immaculate, white teeth, you covet a smile. It is said life is only a joke to the girl with good teeth. Learn to laugh and develop the laughing muscles, it will save you from indigestion or cure you if you have it. We preach laughing, it requires good teeth to be a good laugh.

THE RELATIVE DUTY OF THE PHYSICIAN.*

By L. E. NICHOLS, Nebo.

The building of a perfect body, crowned by a perfect brain, is at once the greatest earthly problem and the grandest hope of the race. If the mind which rules the body, ever so far forgets itself as to trample on its slave, the slave will never be generous enough to forgive the offense, but will rise up and smite the oppressor. The morality of clean blood ought to be one of the first lessons taught by our teachers and ministers. The care of the health is a moral and religious duty. Life is not only to live but to live well.

Teach the children to-day what we, yesterday did not know about the cause and prevention of disease, that the people of Kentucky, to-morrow, may live longer, freer from disease, and be able to carry on the warfare against disease with less opposition from the ignorant.

It being my mission to discuss the cause and prevention of disease from the standpoint of the physician, I wish first to make this statement: "That physicians have done more than all others combined, to promote the health and general welfare of the people." In order to establish this I wish to bring to bear a few facts regarding his life and life work.

We will only go back a few generations when it was the duty of the physician to visit the sick, study the symptoms and treatment and prescribe accordingly. At that time he had done his whole duty, never stopping to consider the why and the wherefores of the disease, consequently, the exact cause of but very few diseases were known at that time.

It remained for the last quarter of the nineteenth century to produce the immortal "Robert Koch" who in the autumn of 1882 an-

nounced to the medical profession his discovery of the tubercular bacilli, as being the exact cause of tuberculosis. He further demonstrated, that this particular microorganism, is present in every case of tuberculosis, and that it is the exact cause of this terrible disease. From this startling and supremely important discovery, there dawned a new era on the medical world, and almost immediately bacteriology sprang into existence, and physicians everywhere got busy trying to find the exact cause of every disease with which humanity is affected, with the result, that they learned the exact cause of almost every disease, and thereby preventive medicine was born.

Already, the great work of physicians, is being felt and appreciated by the people. They succeeded in getting the pure food and drug law passed by the national congress, the vital statistics law of Kentucky, so recently put into operation, is the result of physician's labors. But still they are not done, for to-day they are haunting the lobbies and halls of Congress and the various state legislatures, and the daily mails are being flooded by physicians asking senators and representatives to act upon much needed health laws. These reforms have come and others must follow, but they come only by the hardest kind of pleading, self denials and efforts of the medical profession. This altruism on the part of the profession is regarded by many as an effort to establish a doctors' trust, and on the very threshold of this great undertaking, we are met by organized resistance. A few pious though misguided people, have allied themselves with irregulars, quacks and the great patent medicine interest, and have formed a so-called "League of medical freedom," the sole object of which is to perpetuate the patent medicine interest, and leave unmolested the charlatans whose end and aims are to rob the sick and afflicted, and who are to-day a menace to the happiness and wellbeing of mankind.

Another cause of the slow progress made before legislative bodies and courts in earlier days, was, we were confronted by otherwise broad and fairminded men, with distrust, bias, and prejudice against the medical profession, and everything a doctor proposed. Medical committees visiting the national and state capitals year by year, at their own expense asking legislation against their own personal interest, often had to face this sentiment, even in men of broad culture, large experience and of great liberality on all other questions.

It soon developed that this could be traced to dissensions and jealousies between physicians of all schools and creeds, and practically always, that that particular legislator had had his confidence in the profession destroyed by

*Read before the Hopkins County Medical Society.

the criticism of all the others of the community by his family physician. Of course each one stood high with his clientele but the profession as a whole occupied a very low place in the public esteem. A study of medical history, shows that this evil was handed down to us for centuries, cursing us and the people led by us and dependent upon us. But a few years since the medical profession was aroused to the enormity of this evil, and to its baneful effects upon it and the people and probably never before in the history of the world did a reform so sweep a profession, as that for the elimination of this evil, did ours, and to-day, regardless of isms, fads, and pathies, ours is becoming one of the most harmonious of all vocations.

It can readily be seen, that the same revolution is rapidly going on in the practice of medicine that took place in the practice of law only a few years since. A generation ago, the practice of law was limited to litigations before the various courts and tribunals of the country, but how is it to-day? Trusts, corporations, and business firms, of almost every variety, employ counsel, not to plead their cases before courts and juries, but what for? To keep them out of the courts. And so it is with the practice of medicine to-day. The current of thought is not how to cure a case of typhoid fever, but how to prevent it entirely and finally place it in a list with that once most loathsome and dreaded disease, smallpox, and eventually eradicate them entirely. Of course all sickness can not be prevented by present knowledge, but many of the domestic pestilences that are most dangerous to children and young people can, and the list should be extended by scientific research work. Such extension of knowledge would soon eliminate quackery, the nostrum, and many other similar evils, which thrive by preying upon the ignorance of the afflicted. But listen. It will take years of consecrated unselfish labor, for the medical profession and the laymen, that may be induced to enlist, often in the face of misrepresentation and abuse, which are inseparable from such a reform.

I say the doctors must lead in this work, because they have the knowledge which, not only fits them, but makes it their duty to do so. I am certainly glad to know and realize that we are to-day, taking our first steps in this great work, and we are most fortunate in having this array of lawyers, ministers and teachers to hold us up that our tottering footsteps may not err.

Of course, we regard the investigation of the great trusts by the congressional committee, the election of United States Senators by popular vote, the revision of the tariff schedule, the government ownership of railroad,

telephone, telegraph systems, all questions of vast importance but to my mind these pale into insignificance when compared to the one great question of saving society from degeneracy, and premature decay. To-day our charitable institutions and prisons are filled to the overflowing, and why? Plainly, because there has been no attention paid to marriage laws, and the prevention of the multiplication of the idiot, the imbecile, and the criminal. When we are confronted by these facts, the burning question at once arises, "What must we do to be saved?"

At the beginning of our government the conditions were such that the law-making part could best be conducted by lawyers, but to-day things are different, and what we need first, is more doctors, ministers and teachers in the legislative halls. Why? For to-day reforms in our school system, health boards and medical inspectors, are even more important than courts, judges and juries. They are more important just in that proportion that human lives, human health and happiness is more important than any mere property interest. This fact must be appreciated before the appalling waste of human life and health, and the only important economic drain consequent thereto can be stopped.

In the last ten years the government, through the department of agriculture, has expended millions of dollars, trying to stamp out the Texas fever in cattle, scabies in sheep, cholera in hogs, the various pests of cotton, wheat, corn, and all other agricultural products, and think of how much it has expended for the prevention and cure of human ailments and ills. Not one penny.

What we want, then, is a central department at Washington, presided over by some good old country doctor from Kentucky. And if he come from Hopkins county, we will only know that he is a man of ability and above reproach, that he may be entitled to sit in the President's Cabinet, the greatest deliberative body in the world, and there, with one arm of this mighty government, that will reach from the Atlantic to the Pacific, from the great Lakes to the Gulf of Mexico, from the depths of the lowest slums of our great eastern cities, to the summit of Pike's Peak, and there protect the lives and health of this great mass of humanity, and as a result thereof bring much peace and joy and happiness to millions of American homes.

Of course our state boards will be endowed with greater power and in each county we will have a health officer, who will devote his whole time to the County Hospital, and the inspection of our public schools in general, he will look after the sanitary and all other conditions pertaining to the health of the people. He must receive his pecuniary reward from the

state or county, because the vocation of health officer and medical practitioner are distinctly incompatible. It would be as reasonable to ask judges who sit on the bench, and support themselves in the meantime by the practice of law, as to expect health officers to do effective work while engaged in the practice of medicine.

Experience has shown that if he had the time for practice he would be compelled to give such offense to his patrons, in the enforcement of sanitary and health laws, that he would soon have no practice.

He should have at his command, a properly equipped laboratory, to which any citizen might bring specimens of water, milk, or anything he might consider dangerous to his family, and have it analyzed, without personal expense. He should make such frequent and systematic examination of all school children as to at least afford them an opportunity for the cure of those physical defects which deprive so many children of the chance of an education, and make them invalids for life.

I repeat, that a health building, properly equipped, is just as important in any city or county, as the city hall or court house, and the health officer with an intelligent corps of assistants, just as important as the sheriff, the police, or fire department.

We have said a great deal regarding the medical profession and health boards, I now wish to discuss for a few moments the conditions that now exist and that must be relieved, and more especially, the defective children of school age.

During the past half decade, our educators and investigators in the field of pedagogy, and psychology, have been striving with parents and guardians, in fact all people interested in the care and welfare of children, to give more time and attention to the defective child. As a matter of fact, few questions are of greater importance, for defective in the sense here employed, means any and every form of mental and physical deficiency, which in any way handicaps an individual, or impairs his usefulness in any degree. Not only the welfare and happiness of the child itself but such children, are of especial economic importance, not alone because of his condition, society is deprived of benefits, that would have accrued had he been normal, but too often because his abnormality makes him such a burden to his family, that it is often deprived of social benefits of one or more healthy individuals of the family. Therefore, the effects of child deficiency are only too apparent, and the facts that unfold themselves as one begins to study the problem, are little less than startling.

For instance; careful examination of young men and women, seeking to enter the colleges

of the country, show physical deformity, in over 70 per cent. These defects include: "Spinal curvature, adenoids, mouth breathing, deafness, defective vision, bad teeth, and all manner of chronic affections, ranging from chronic catarrh to active tuberculosis."

Only recently announcement was made in the *New York Times* of the examination of the school children of Boston, Mass., supposedly one of the most favorable localities for human existence.

Of the 42,750 children examined by Dr. Galivan only 14,957 or 35 per cent. were found to be physically normal healthy children; 27,795 or 65 per cent. were found to be below par. These defects were as follows: Mental deficiency, 223; defective nasal breathing, 3562; hypertrophied tonsils, 9738; defective teeth, 19518; defective palate, 86; cervical glands, 4425; pulmonary disease, 456; cardiac disease, 1129; nervous disease, 213; orthopedic defects, 521; skin diseases, 3509; rickets, 575; malnutrition, 1611.

As most of these conditions could have been prevented, had they been detected early enough, and submitted to proper treatment. The question that confronts us—not only from an economical and social standpoint—but humane as well, are what can be done to reduce this condition and how are we to reach them at an age when we can accomplish most?

SOLUTION.

The solution of this problem therefore seems to depend largely upon the efficiency of the school, the teacher and school physician, if these factors are equal to the opportunities before them; and school hygiene can remain uncontaminated from isms and fads and go on and accomplish what has already been shown to lie within its power. We may confidently expect a remarkable and gratifying decrease in these poor unfortunate who are to-day mute but eloquent testimonials to some one's ignorance and neglect.

There are many other preventable diseases which a great deal might be said about, such as typhoid fever, smallpox, measles, scarlet fever, dysentery and the diarrheas and tuberculosis, but time forbids only a mere mention. It is said by Mr. Rush, of Yale, that the average life can be extended 15 years by preventing these diseases.

In conclusion I wish to repeat, this great work must be accomplished by public education led by the medical profession and assisted by the teachers and ministers, it must be carried on by public meetings and public addresses. I say these three professions must bear the bulk of the burden because their vocation pertains to deal with the three great questions of life. "The building and keeping of a perfect body." "The crowning it with

a perfect brain," and "The saving of the immortal souls."

And I honestly and truly have such faith that every member of each profession that enters into his lifework with a heart full of love for mankind and an indefatigable effort to bear his share of the burden, that when the wings of time have wafted their battle-scarred vessels across the ocean of life, that we will be permitted to cast anchor at the portals of the New Jerusalem and with faith as a password through the perly gates, that we will be permitted to clasp hands with the Chief Health Officer of the Universe, the Teacher of teachers, and the Savior of mankind, and that He will place upon our brows a crown that will shine with greater brilliancy than his majesty, the King of Day, and that we may hear His sweet voice as it rings in our ears those tender words of "Welcome." "Well done thou good and faithful servants, enter thou into the joys of thy Lord."

A YEAR'S EXPERIENCE WITH SALVARSAN.*

By MAURICE S. DAVIS, Lexington.

Salvarsan, or "606" as it is commonly known, has been in use a little over a year. The length of time is hardly sufficient to warrant a statement in regard to its lasting effects in such a lurking disease as syphilis. However in his time the results obtained are of such a nature as to permit us to draw some conclusions as to its merits and as to what we might expect in the future. The mass of literature on the subject is most startling and from it one is made aware of one fact, namely: results from the use of this great chemical have been obtained.

A great deal of skepticism has existed against salvarsan, as is always the case in every new discovery, remedy or treatment. Especially has this antagonism been shown among our French and English writers, but as time passes and results show, the skeptics are becoming fewer and its converts more numerous. In this connection Wolbarst says, "There can be no denying the wonderful effects of salvarsan in syphilitic conditions. Undoubtedly experience is teaching us that a simple injection of salvarsan has the potency of a thorough course of mercury and iodide."

To treat syphilis properly and scientifically, we should take advantage of modern day advance. A serologic test should be made in every case of syphilis or suspected syphilis, before treatment and after, for only in this way can we judge of results, while unfortunately, like the greatest majority of all laboratory tests, it is not perfect; still it is the best

we have and therefore it should be used. It has been used in most of the cases with which the writer has had the last year's experience. Noguehi, (of the Rockefeller Institute) has recently announced a skin test for syphilis, similar to that now in use for tuberculosis, which he terms *metin*. His reports so far are only preliminary.²

Especially valuable is the blood test when it comes to a question of marriage among syphilitics, where to all outward appearances they are clear of the disease, and have been for the proper length of time. When the blood test is positive, you are that much more positive that you are doing the right thing in not permitting them to marry.

Heidingsford reports in those cases, which he could follow, after the use of salvarsan: 79 per cent. became positive after a negative blood reaction, 6 per cent. improved, 12 per cent. showed no change, and 3 per cent. retrogressed.³

Salvarsan was first administered as an injection into the deep muscles of the buttocks, an alkaline solution being used, 10 c.c. to each side. Fourteen cases were treated in this way.

Eight of these were the usual secondary cases in every day practice with the usual mucous lesions. These lesions cleared up in most of the cases in from eight to ten days.

Case No. 1, A. P., a negro man, which was shown at this society at its meeting in January, 1911, and reported by Dr. Stucky in the *MARCH JOURNAL*, was a case of tertiary syphilis, which enlarged the cervical glands marked oxena, and perforated septum was gone, with no swelling on either side of the nose all of which cleared rapidly. This case was seen about nine months after having received the injection and was still clear as far as the leucic condition is concerned.

Case 2, L. B., which was shown at the same time as case one: Infection about eight months previous had marked tertiary skin lesions over various portions of the body, leukoplakia. This man had been treated strenuously with deep injections of mercury, but responded only slowly to this form of treatment. Salvarsan was injected and he showed a decided improvement within ten days' time; about four months later he developed hemiplegia, and was seen in consultation with Dr. Clark, who concurred in the opinion that salvarsan had nothing to do with his condition.

Case 5. This was a female, referred for injection, married, with a gumma of the iris, associated iritis. The gumma disappeared within twenty-four hours after injection; the iritis cleared up in about two weeks' time.

Case 6, L. O., infant about eight months of age, was given a subcutaneous injection over

*Read before the Fayette County Medical Society.

the scapular region. The infant had no lesion showing at the time of injection, nor has it shown any since. The mother was given an intravenous injection at the same time.

The remaining five cases had nothing showing worth mention; all responded to treatment and showed rapid improvement.

Seventy-eight other cases were treated with salvarsan, given intravenously; 33 were primary cases, 19 were secondary; 16 were tertiary cases, and one congenital syphilis.

The primary and early secondary cases were injected immediately after a diagnosis was made either from the clinical evidence or laboratory findings. They present nothing of special interest other than that the eruption, where present, faded rapidly as did also the primary ulcer, if still showing. One case, a young lady with an extra genital chancre on the upper lip, the same swollen and painful, glands of the neck in a like condition; was seen two weeks after the appearance of the ulcer. Seriological test negative, no stain was made for spirocheta as bichloride had been used as an application to the lip. The young man whom this girl had kissed was examined and unmistakable evidence of syphilis was found and she was given an injection of salvarsan. The next day she said the lip and glands felt better and the swelling was perceptibly decreased. The case was seen to-day, just two weeks since the use of the medicine, and there remains only a slight crust and elevation at the lip to show where the chancre had been.

The later secondary cases present more of interest and show better what results can be derived from the use of salvarsan. Herewith is reported four cases in which the drug was used and the results obtained.

R., white, male, was seen by his home physician who told him that the lesion then showing on his penis was of an innocent nature. He did not improve under this man's care and he consulted an advertising quack who seemingly knew no more of his troubles than did the physician. When examined the man was found to be well advanced in the secondary stage of lues. Infection had taken place some time in the winter of 1910. The head of the penis and the fore skin were found ulcerated and swollen; the buccal cavity covered with mucous patches, enlarged and ulcerated tonsils, the vocal cords thickened; deglutition greatly interfered with; inside of the nose was very much ulcerated; cervical and inguinal glands enlarged. Twenty-four hours after receiving an injection of salvarsan this man showed change for the better; improvement was decided. In ten days time to all appearances he was entirely clear. He was seen on December 3, three months after the

time of receiving the injection and nothing showed on the patient.

T. K., was referred, had a small innocent looking sore back of the cornea which disappeared in a few days' time as did also the patient. He showed up again in about five weeks complaining of severe muscular pains all through the body, especially in the lumbar region. The thermometer showed a slight rise in temperature. He was put to bed and watched closely. Aspirin, etc., did nothing towards relieving his pains. After several days, a light eruption was observed on his body; also after close examination, some slight granular enlargement was found. A diagnosis of syphilis was made and salvarsan administered, relief being prompt, and in three or four days the patient left the hospital, free from all pain and able to resume his usual duties. It might be mentioned as a matter of interest that this man had on his chest a tinea versicolor covering a space about seven inches one way and three and a half the other, which also disappeared after the injection. This spot, so he said, had been present for several years. This man was seen about the last of January, almost five months after the injection and has had no trouble since. He refused further treatment.

T. C., white, male, contracted syphilis four or five years ago; was treated by local physicians; also had been to Hot Springs and received treatment there. Examination showed a large tertiary ulcer on the outer side of the left thigh. He was given an injection in July, 1911. Ulceration cleared in eight days time. He has had no trouble since, nor has he had any other treatment.

M. C., original infection eighteen years ago. Gives history of about one year's treatment with disappearance of all symptoms. Made a trip to Hot Springs about eighteen months ago and was under the care of Dr. Greenway for six or eight weeks. When seen about three weeks ago, presented the following symptoms with a clear history of syphilis: No active clinical symptoms other than patches on the tongue; had been feeling badly, losing weight, and complained of loss of appetite; pupils responded to light sluggishly; accommodation good; complained of girdle pain; parasthesia of soles; no Romberg symptoms, walked steadily with eyes closed, knee jerk slightly increased, no ankle clonus; no Babinski; complained of slight pains in leg. The man was highly nervous. There is quite a little doubt as to whether the pains in legs and girdle sensation and other parasthesia, were significant of tabs.

In the absence of other symptoms, however, salvarsan was administered and the patient was seen for the last time about a week following the administration and reported absence

of the girdle pain. Seemed not as nervous and said he was feeling better than he had in the past five years. These are about the average cases treated. Some were not so bad; others were worse. The results cited here are typical of the results secured in other cases. In every case treated there was improvement more or less marked and rapid; the cases showed general improvement as well, usually increasing in weight. Certainly mercury has also shown that it gives results, but not as rapidly and as easily, and this is a point which is to be sought in the treatment of syphilis. Lydston remarks, "In regard to the results obtained by salvarsan, I am free to say that while I have occasionally seen quite as remarkable benefits from intravenous injections of mercury, salvarsan is on the average much more trustworthy, far more speedy and definite in its action."

Heidingsfeldt and others give only the salvarsan and no other treatment, excepting in indicated cases. Frances Hagner gives an intravenous injection and follows within thirty days with a deep intramuscular, and this is followed with treatment as indicated. Some of our more conservative, however, are following the salvarsan treatment with mercury, as has been done in the cases here reported, where they would submit to its use. Mercury in some form or other has been advised in all cases.

Politzer says, "that it (salvarsan) is the most effective drug we possess for the symptomatic cure of the active lesions of the disease."⁵

This expresses the opinion of most of the later day writers on this subject. "Of one thing we may feel certain, namely, salvarsan has come to stay and that it will certainly play the principal role in the conquest of syphilis," is the statement of Wolbarst.⁶ All cases which we have treated with this have shown improvement. Especially rapid were those which had mucous lesions showing; next in rapidity to heal, were those with skin manifestations; and the glands were slowest to respond. Primary ulcers disappear in from 14 to 24 days, regardless of their duration. Salvarsan has demonstrated, at least to the satisfaction of most, that it is rapid, that it can do what mercury and iodide does, but in a shorter length of time.

The intravenous is the method of choice for the routine administration of salvarsan which method has been used by the writer since February 3, 1911, the solution being alkaline and given with Heidingsfeldt apparatus, usually into the median basilic vein of the left arm, inserting the needle through the skin into the lumen of the vein, where the same is superficial enough to permit of this, if not, the vein is exposed; .06 gm. is given to

the male and .05 gm. to the female; this is given in a 300 c.c. solution. Early a normal saline was used, but finding that it became cloudy it was changed to sterile distilled water, which is still used. This according to Corbus, makes an isotonic solution. These administrations were made in the hospital under every aseptic precaution. The patients were placed in a recumbent position and kept so for several hours following the use of the drug. In some of the earlier cases some of the solution was spilt in the tissues during the administration. When this did occur it was followed by slight pain and swelling in the region of injection. However this occurred only seldom and did not amount to much. In a half hour to three hours following the introduction of the salvarsan solution, the patient in most cases, experiences a chill, varying in severity, which is usually followed by nausea and vomiting, (the chill and vomiting is said, by some writers, to occur only where the water has not been freshly distilled and sterilized; this however, has not been our experience). The vomiting is followed by a rise in temperature, of a more or less high degree, having gone as high as 104 1-2 degrees F., in one case. It dropped to normal in about eight hours. However, some cases continued to run a temperature for several days after the injection.

In three cases we had persistent nausea following in the course of treatment; in one case this lasted for about four days; patient was unable to retain anything in the stomach during this time. In the other two cases the stomach continued to rebel against food for a week or more. Since this time they have had no trouble along this line. One case presented a herpes-zoster; another two cases had an arsenical eruption following the use of salvarsan.

In the deep injections, one case abscessed. In a large percentage of cases thus treated the buttocks became painful and swollen for several days following the injection. Some writers report as much as fifteen per cent of their cases to be abscess. Two cases which were injected into the muscles of the arm near the shoulder, by a physician whom it is pleasing to say lives outside of Lexington, the arm in both cases abscessed at the sight of injection and the tissues necrosed. Quite a little of the salvarsan was found deposited in the degenerated tissue when it was removed. One case, a male who had a marked polyuria (no albumen or sugar present) was benefitted in this respect for a while after injection of salvarsan. No kidney trouble has been observed to follow any of these cases, nor has there been discovered with the eye or ear symptoms following its administration. Keyes and others have discarded the use of iodipin as a vehicle

for a deep injection of salvarsan, on account of its after effects on the auditory canal.

Along this line the following from Bohm is of interest. "It was formerly thought that involvement of the auditory and optic nerves, reported in the German-European literature to follow the intramuscular injection of salvarsan, might be due to an arsenical neuritis, in which case there might have been idiosyncrasy on the part of the patient to arsenical preparations. This has since been disproved. Neuritis of cranial nerves, following such treatment, is merely coincidental and only a syphilitic inflammation of the nerve proper, with no connection whatever of the arsenic per se.

Ehrlich has referred to such a condition as neurorediven. Notwithstanding this fact there is to-day fallacious tradition among the profession, especially in unenlightened quarters, that salvarsan has produced and will produce blindness. The preponderance of evidence accumulated to-day disproves this statement.

Wechselmann's statistics of cases examined before the use of salvarsan show that the optic nerve was affected in three per cent. of his cases in the early stages. Wechselmann also reports a case of blindness after the use of salvarsan, in which case methyl alcohol was used as a solvent.

Contraindications to the use of the drug may be mentioned: alcoholism, organic nephritis, diabetes, ulcer of the stomach, organic heart diseases of any form, aneurysm, and other circulatory disturbances, etc. However, there have been cases reported where some of these contraindications have been disregarded and the medicine administered without harmful results.

Salvarsan has been administered in other diseases than lues, malaria, pellagra, sleeping sickness, stomatitis. In the latter some very gratifying results have been reported. Martin¹⁰ reports favorably on his experiences with salvarsan in pellagra, in the other maladies, the use of salvarsan has not been encouraged.

Every case of syphilis should be given the advantage of the drug. All primary cases, especially, should be subjected to its use, if for no other reason than that the symptoms of apparent or infectious lesions respond so readily to its use, and thereby lessening the danger of further dissemination of the disease.

No one can yet say positively how permanent or how lasting the results of salvarsan will be. We do know, however, that it does relieve the patient of the symptoms of syphilis and that the blood reaction becomes negative, frequently, after its use; therefore the writer believes that all patients infected with lues should be given the full advantage of this form of medication. He furthermore thinks

that all patients should receive a second dose of salvarsan, and that this should be followed by mercury and iodides and the usual anti-syphilitic treatment. Especially should this course be pursued until it is further demonstrated what salvarsan will do other than to clear the symptoms and give a negative serological reaction, but even as it stands the medicine should be used as a routine in the hands of one who has had experience in its use.

The writer wishes to express his thanks to Dr. S. B. Marks for his kindness and interest in these cases and also his appreciation to Dr. E. B. Bradley for his laboratory work in connection with the same. Appended will be found the report of Dr. Bradley's years' experience with the Noguichi serum reaction.

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SUMMARY OF ONE HUNDRED AND SIXTY-SEVEN SERUM-REACTIONS BY THE NOGUICHI METHOD.

BY E. B. BRADLEY, LEXINGTON.

As a result of a year's work with the Noguichi test for syphilis, I find it to be as reliable as any laboratory test that we have for diagnosing disease. It is certainly as reliable as the Widal test for typhoid fever, and that is saying a good deal.

I have failed in one instance only to get a positive reaction where clinical evidence of the disease were present. I did not see this case but his doctor informed me that there was no question that it was a case of secondary syphilis. I have been struck with the high percentage of negative reactions in cases well treated with mercury, and with the difficulty with which a positive reaction is changed to a negative one with either mercury or salvarsan. One case that I have in mind is especially interesting; this patient had his primary over two years before consulting me and he had had what I considered thorough treatment, that is, he had been treated for these two years with mercury mostly hypodermically, and had had some treatment with iodide. His blood showed an absolutely positive reaction and salvarsan was given intramuscularly; this was some time in February, 1911; his blood, tested from time to time, always showed a positive reaction and he was given

hypodermics of gray oil for two or three months, these measures failing to change his blood reaction, he was given salvarsan again, this time intravenously, this also did not affect his Noguchi reaction and he was put on hypodermics of mercury again. After about twenty-four hypodermics, his blood has begun to clear up and his reaction while still positive is much less so than it has been before. I could not see that the salvarsan had the slightest effect on his blood-reaction, though it is very possible that it did so and was further helped by the mercury that he received. Other cases have cleared up after a single dose of salvarsan, though this is rather the exception than the rule.

RESULT OF NOGUCHI TESTS FOR SYPHILIS.

Primary (early)	0	1
Primary (late)	2	0
Secondary (untreated or slight treatment)	20	1
Known syphilis with more or less treatment	46	57
Tertiary (treated)	2	1
Parasis	4	0
Tabes	2	3
Congenital	1	0
For diagnosis	15	12
Totals	92	75

THE USE OF SALVARSAN.*

By J. R. McGARY, Owensboro.

With the advent of "606" which Ehrlich has given to us as a new specific for syphilis, there has been poured into the medical world a flood of literature. The subject upon which the last word had apparently been spoken has again become a matter of speculation and investigation. Late methods of study have thrown new light upon the disease and at the same time rendered uncertain much that was apparently accepted as certain. The most important knowledge necessary at the present time for the proper use of salvarsan is how to make an early diagnosis.

The changes that are taking place during the incubation period of lues is biological rather than pathological. The spirillum known as the *trepanoma pallidum* is multiplying in numbers and preparing a base of supplies for the invasion of the host. At present we have no means of knowing when this army is being formed and we can only wait for the appearance of the chancre. Given the chancre, heretofore we have waited the silent and treacherous inundation of our defenses and have only begun fighting on the appearance of the eruption. This delay may mean the spiking of our guns.

If I am not mistaken there has been no opportunity offered nor any effort made to apply the Wasserman or Noguchi tests during the incubation period. As a rule a patient becomes alarmed only on the appearance of the initial sore. Now if in the incubation period there has been only a local multiplication of the spirilla and the host is not teeming with the spirochaetae, it becomes of paramount importance to be able to diagnose the chancre. The *trepanoma pallida* are found constantly in all chancres and in the regional glands. Neoggerath and Staehelin claim to have found them in the circulating blood. We are no longer doing our full duty towards these patients by sitting idly awaiting the secondary manifestations of the disease, if there is any special efficacy in early treatment. It seems a logical inference that if we have a specific the sooner it is used the more certain we may be of effecting a cure.

In nearly all cases the presence of the specific organism of syphilis can be readily demonstrated by obtaining serum from the chancre. The chancre should first be cleansed with soap and water to remove any pus or epithelial debris present, then slight irritation will cause bleeding. This should be wiped away with gauze and as soon as the serum appears two or three smears can be readily made. There are several stains that might be used for demonstrating the spirilla but the simplest and most rapid method of showing their presence is by the use of india ink, which does not stain bacteria, but leaves clear spaces which would immediately identify the spirilla. The possibility of error here lies in not distinguishing the *trepanoma* from other spirilla.

Cohn says, "The recognition of the spirochaeta pallida depends upon the observer's ability to differentiate it from other spirilla and to appreciate its distinct morphological characteristics. In size it varies in length from 7 to 21 microns (1-3000 to 1-1000 in.) It has the shape of an extremely slender thread, closely wound in a corkscrew form. They are observed to rotate on their long axis in either direction. The motion is very rapid but not necessarily accompanied by a change of position.

With the means of making a diagnosis in the primary stage at our command the successful treatment of the disease may be hoped for and by the proper use of salvarsan a speedy termination of the lesions accompanying syphilis may be expected. A complete sterilization of the body after one administration was Ehrlich's hope and the profession's disappointment. Nevertheless, we must not lose sight of the fact that "606" has been used in nearly every instance in the secondary and tertiary stages of the disease.

*Read before the Daviess County Medical Society.

The incision of the chancre in connection with enucleations of mercury has been advocated as efficient treatment. It seems correct to suppose from this that a drug which destroys the spirilla and heals the chancre in a few hours ought to be a complete and absolute cure at this stage of the disease.

My experience in the use of "606" in the primary stage extends to only one case. A young married woman manifested a chancre shortly after the appearance of the secondary symptoms in her husband. On account of the disease being evident in the husband I did not hesitate in making a diagnosis and the day following the discovery of the chancre administered intramuscularly in the gluteal region, .6 salvarsan put up after the formula of Loser. This consists on an alkaline solution diluted up to 10 c.c. in normal saline. The patient complained bitterly of the pain for about twenty minutes. The selective action of the arsenic for nerve tissue was clearly shown by the patient complaining of the pain radiating toward the heel. The injection was made as far from the sciatic nerve as was possible in this region. Four days after the administration of the "606" the chancre disappeared. There has never been any secondary eruption nor any other manifestation of the disease.

There is no special difference in treatment of the three stages of syphilis with "606" unless it be in the quantity of the drug administered. Heart lesions and arteriosclerosis are probable contraindications for its use. Blindness and deafness may follow the use of salvarsan. Arsenic has a selective action on nerve and epithelial tissue and consequently there may be an atrophy or degeneration of the optic and auditory nerves subsequent to the injection of "606". It rapidly heals specific ulcers, thus manifesting its effect on epithelial cells. The problem that presents for solution at present is, the best method of administering it and in what dosage.

One of the three methods of using "606" has not become popular—the subcutaneous. The choice is generally between the intramuscular and intravenous methods. The dose for intramuscular injections could either be larger or much smaller and often repeated. No matter whether the dose be large or small the pain following the injection will be severe. There is likewise danger of decomposition unless the salvarsan is quickly absorbed. Decomposition will invariably result in a slough. Personally have had no such experience with salvarsan and have always used the clear alkaline solution. The quantity of the drug used should be, I believe, .6 or .8 and not to be repeated in less than six weeks or .2 every week for four weeks. It is under-

stood that the injection should always be given with strict asepsis.

After six experiences with the intravenous method, one being a woman three months' pregnant, I feel inclined to advocate this method as far superior to the intramuscular. The introduction of the needle into the lumen of the vein is the most difficult part of the operation. By using a bayonet-formed needle with a three-way stop-cock we can demonstrate the position of the needle.

Salt solution is allowed to run freely into the vein before turning on the "606". In this way we can avoid infiltration of the tissues. Fastening a rubber tube around the arm until the veins swell facilitates the introduction of the needle. An alkaline solution diluted with salt solution up to 200 c.c. is a satisfactory solution for intravenous injection. The deaths reported due to the use of salvarsan have all followed the intravenous method of injection. This is the only reason for one hesitating to use this method. This way gives no pain and we have good reason to believe it to be more efficient. It can likewise be more often repeated.

Salvarsan is a wonderful drug. It will restore the paralyzed limbs due to gumma, the failing vision, the degeneration as found in our parasyphilis. As my experience with it extends, I become more certainly convinced that "606" if properly used, will cure syphilis.

When can we be sure of our patient's cure? There's the rub. Yet it is the end most anxiously desired. From recent reports the negative Wasserman does not seem to be of as much value as the positive reaction. This element of doubt will cause the profession to withhold judgment for many years as to the exact value of salvarsan. That it will cure paralysis and other effects of gummatous deposits renders it invaluable as a drug. If it would sterilize the tissues entirely removing or destroying the spirochaetae we can surely rid the earth of one of its greatest evils. This I believe possible if we can find a positive test for syphilis which will have no negative phase. This discovery will be greater than the remedy and may it come quick.

Massage of the Nerves.—Jaffe relates experimental research which demonstrated a markedly injurious action on nerve tissue from pressure such as is applied in the modern "pressure massage" treatment of neuralgia. Fifty-two experiments showed that the benefit in neuralgia is due to blocking of certain of the nerve fibres from degenerative processes. The centrifugal fibres seemed to suffer more than the centripetal.

SCARLET FEVER.*

By B. A. COCKRELL, Lexington.

I have a great deal of hesitancy in addressing you upon any subject pertaining to our profession, for I know that, no matter what subject I choose, those older than I are thoroughly familiar with it from their years of experience, as well as from their training, and that the ones nearer my own years are as conversant with it as I, because they, too, have but recently finished their school work and have had as much time since in which to receive experience.

I have chosen as my topic one of the contagious and infectious fevers, because most of my practice has been in those fields.

During my short stay among you I have been fortunate enough to have had about twenty cases of scarlet fever to treat and I shall attempt to tell you what I have learned from them.

Scarlet fever, or scarlatina—which comes from the old Italian, *scarlattina* or *scarlatina* meaning “red”—is an acute, epidemic, self-limited, exanthematous, contagious and infectious disease.

It is characterized by a scarlet flush spreading progressively from the neck over the body, reaching the hands last, ending, in from six to ten days, in desquamation; by a high temperature; by a rapid pulse, and by inflammation of the mucous membranes.

It is caused by a special microorganism which is as yet undetected but which is of very great vitality.

Edington noted eight kinds of bacteria in the blood and scales, one of which in the form of a rod or diplococcus, which, when introduced into animals, especially calves, produced a febrile affection with a cutaneous rash similar to that of scarlatina.

The bovine origin of scarlatina has been upheld in England for several years by both physicians and veterinarians and the contagion is supposed to result from ulceration of the udders and from the use of milk.

Whatever the agent of infection, it retains its infecting power for at least one year.

The desquamated epithelium is in all probability the bearer of the contagion, for during desquamation the disease is communicable to the greatest degree.

It is disseminated by the scales in the air, on food, clothing or on anything which may come into contact with the patient or the air which has been laden by the scales.

Sanne reported a case of a lady and her daughter living in Brittany receiving a letter from a friend living in Germany, in which the friend said she was convalescing from scarla-

tina and was peeling so freely that she had to stop every few minutes and shake the paper to get rid of the scales which fell on it.

The mother and daughter who received this letter were taken ill with scarlatina, the former died and the latter had a narrow escape from death.

The respiratory tract is the usual route of infection, but the digestive tract may also carry the infection.

However, this is still something of a moot point, as some claim the tonsils receive the virus.

Children are the most likely to contract the disease, but adults are subject to it. There are some cases which prove that the foetus may receive the contagion from the mother.

It is usually the most severe in the youngest cases, the mortality list showing 50 per cent. below 1 year, 11 per cent. between 1 and 2 years, and 2 per cent. from 2 to 10 years. In adults the mortality is about 1.5 per cent.

One attack usually confers immunity, but does not always do so.

The skin is the seat of the acute inflammation. The liver, spleen, stomach, kidneys, heart and muscles undergo granular changes.

Scarlatina predisposes to suppuration, a fact that is not surprising since we have learned that the streptococcus is inseparable from most scarlatina manifestations.

The incubation period is short, varying from 24 hours to 10 days.

There are rarely any constitutional symptoms between the time of infection and the onset of the disease.

The onset is sudden, there may or may not be a chill; vomiting is sometimes present, as are occasionally convulsions.

The temperature ranges from 100 degrees to 105 degrees, the pulse 100 to 150 beats per minute, both temperature and pulse being higher the younger the case.

There is pain in the throat and often the whole onset is typical of a case of acute tonsillitis.

At the end of 24 hours the scarlet rash appears on the neck and chest, spreading rapidly over the whole body. The eruption is not raised and disappears on pressure. It begins to fade as soon as it is complete, rarely ever lasting more than 5 or 6 days.

With the appearance of the eruption the throat symptoms are more pronounced, the tongue is first furred, later it becomes a typical “strawberry tongue”.

There may be headache, restlessness, delirium and loss of appetite. In a majority of the cases the bowels are constipated, in a few there is diarrhoea. The urine is scanty, highly colored and albuminous. Leukocytosis is present.

*Read before the Fayette County Medical Society.

About the time the eruption begins to fade the fever declines by lysis.

A simple uncomplicated case lasts from 3 to 14 days.

Now most of what I have read is what I have learned from text books, treatises, etc., I could write a small book on the same strain, as could each of you. What I have read you have, or can, read, so I shall confine my further efforts to my own cases. Of course it is only a limited experience but in one or two instances things rather unusual presented themselves and I hope they will prove interesting to you.

Of the twenty cases I have attended only four began with a chill, there was vomiting in six cases. Only twice did I encounter delirium.

Five of the cases gave every indication of tonsillitis on the first day, and not till the rash appeared was a positive diagnosis assured.

Three cases at no time had a temperature over 100 degrees, 101 was the limit for two more, 8 cases ranged from 102 to 103 degrees, 3 were from 103 to 104 degrees, while four went above 104 degrees, only one of which reached 105 degrees at any time.

One case had a pulse rate of 90 at the onset, which was the maximum rate throughout the whole course of the disease.

Two were around 100, 1 was steadily near 120, 3 were close to 130 all of the time, 5 ranged from 135 to 145 and 8 were over 150, one reaching 160.

The patients ranged in age from three and a half to thirteen years. The younger the patient, the higher the temperature and the pulse rate, and the longer the fever lasted.

In three cases, all of whom were over 10 years of age, the fever did not last but four days and was not higher than 101 degrees at any time. In 2 cases the fever left in five days, in 1 case it left in 8 days, in another in 9 days, and in another in 10 days. In 2 the fever lasted 11 days, in 3 it lasted 12 days, in 2, 13 days, 14 days in 1 case, 15 in 3 and 18 in 1.

The youngest patient was 3 1-2 years, she had a temperature of 105 degrees, pulse 160, respiration 32, was delirious, had a nephritic complication and the course of the fever lasted 15 days.

There were quite a number of complications that arose in the various cases. By complications, associated with scarlatina, I believe the correct way of putting it is "secondary infections".

Bronchial complications came up twice, 4 had a severe laryngitis and pharyngitis. Pronounced nephritis was present in 6 cases, otitis in 4, conjunctivitis in 3, and a cervical adenitis in 2 cases. In both of these last two

cases in which there was a cervical adenitis the patients gave a family history of tuberculosis.

In each case the abscess was slow in forming and gave every symptom of a cold abscess. They were opened, drained and treated accordingly and healed nicely and in a reasonable length of time.

Seven cases were in such condition that stimulation was necessary, in four of these strychnine sulphate gr. 1-60 was given every 6 hours. Atropine sulphate gr. 1-200 was used in one case and gave splendid results, it was discontinued after the third day, not being deemed necessary any longer. Whisky, drams 1-2, was given in conjunction with the strychnine in 3 cases and alone in 2 others.

It proved most satisfactory in every way and filled a place that no other medicine seemed able to occupy.

At the outset each patient was given a dose of calomel, ranging from 2 to 5 grains, according to the age of the patient. This was followed in 8 hours with a liberal dose of castor oil or saline.

In 2 cases where the fever was very obstinate, calomel, gr. 1-2, was given every night, with very beneficial results.

The fever was controlled by sponging with tap water whenever it went above 102 2-5 degrees. Tepid water was tried with a few cases but did not control the fever as did the tap water.

While tepid water would occasion a larger fall of the temperature within an hour after the bath had been given, it did not seem to have the lasting effect of the tap water. With tepid water the bath was necessary every 3 or 4 hours, while with the tap water the temperature could be controlled for from 5 to 7 hours.

Ice water was tried with two cases but produced too much of a shock so was discontinued.

In all cases a mouth wash was kept at hand and was used before the taking of either food or drink.

Dobel's solution was used in the severest throat cases and they were further benefited by an argyrol spray. In fact argyrol had a most satisfactory result in all the inflammations of the mucous membranes. It gave quick results in the eye cases.

For the bronchial cases elixir heroin and turpin hydrate controlled the cough and loosened up the phlegm.

In each case the urine was measured and the amount registered, color noted, also the odor. An examination was made of each patient's urine each day during the high fever and acute stage, as the fever declined the examinations were not made so often.

If albumin was present in a small degree lemonade was given in as large an amount as

the patient would drink—composed of lemon juice, grape sugar, cream of tartar and hot water—was given every four hours, or as often as the patient asked for a drink.

In one case the patient vomited this drink and it was discontinued and diuretin grs. 5 every four hours was given.

Each patient was put on a liquid diet at the onset of the disease and so kept till the fever had entirely gone. Milk, orange juice, and lime water were the chief articles of food.

In no case was diarrhoea present; on the other hand, practically every case was constipated during the whole course of the fever.

Cascara pills, castor oil and saline were used to keep the bowels open.

In only one case was there a pronounced sequellae, that was a case of nephritis which has not disappeared after fourteen months.

Middle ear complications left no permanent impression.

It is often the case, however, that there are serious results following the otitis from scarlatina. Many a case of mastoiditis can be traced back to a middle ear infection during scarlet fever.

Complete isolation and complete antiseptics are absolutely essential. The former was carried out as well as surroundings would permit and for the latter carbolic acid was used on all clothing, toys, dishes and in fact on every object that it was possible to handle.

In each case when the patient was removed from the room where the disease was first observable or where the patient was confined the room was disinfected with formaldehyde.

When in attendance upon one of these cases I left all removable garments in an outer room, or some other part of the house, and donned a cap and gown before going into the presence of the patient.

Upon leaving the patient I washed face and hands in bichloride or a 1 to 20 carbolic solution and in pure alcohol. After removing the cap and gown I washed again.

Moreover, it seems the only safe and sane thing to do to remain away from all children and maternity cases during your care of this, the most infectious and contagious of our diseases.

Auscultation Sign of Twin Pregnancy.—Le Lurier states that it is possible to train one's ear so that with the stethoscope one can distinguish the beat of the fetal heart when there are two fetuses. The sound is like that of a span of horses galloping; sometimes the feet fall together and it sounds as if there was only one horse, then the hoof-beats of both can be heard separately. This irregular double rhythm in the fetal heart beat is pathognomonic of a twin pregnancy. He ascribes the first description of the sign to Arnoux, 1908.

DIPHTHERIA.*

By WALLAS W. DURHAM, Crofton.

Diphtheria is an acute specific communicable disease due to the bacillus of Klebs and Loeffler, and let me say right here that the diagnosis of pseudo diphtheria and true diphtheria are the hardest thing that confronts the general practitioner in the up-to-date treatment of diphtheria. I am constrained to believe from my limited experience that all clinical cases of diphtheria are not diphtheria, while some cases that I formerly excluded from the role of diphtheria or failed to recognize as such, are diphtheria and no membrane present. Of all the cases I have had, ending fatally, save one, there was membrane visible, only a slight catarrhal inflammation of the pharynx, and in this one antitoxin was only procured and administered a few hours before death occurred.

As the clinical symptoms of diphtheria present wide variations it behooves us as guardians of the health of our clientele to be exceedingly cautious and with our perceptions on the alert when dealing with any pathological condition located within the favorite haunts of diphtheria, for we can ill afford as intelligent and well-meaning practitioners to examine a little fellow and leave a mild gargle and say to the parent, or family, that all will be well soon, to be called in a hurry the next day to find the patient choking and struggling for breath. The idea is to put the family on guard, post your pickets with full instructions for reporting the advance guards of the enemy and if you have at the time any misgivings use antitoxin and use it plentifully. In a great number of cases constitutional symptoms may be lacking, especially in nasal cases of young children. I have seen them when the parents suspected nothing of a graver nature than a cold in the head, though there had been a bloody purulent discharge for weeks.

The cases I believe most generally seen are of the tonsillar form and in dealing with this form beware of follicular tonsillitis as it may sometimes lead us astray, as symptoms of the two are so closely allied, we had better examine all cases of follicular tonsillitis at close intervals for the first 24 to 48 hours. The temperature ranges from 100 degrees to 103 degrees, patient saying that there is not much the matter, though the small specks of membrane may be seen to gradually coalesce or it may be that only a gray film, that grows into a fine white or yellowish patch that covers the tonsil, is the form. This form of diphtheria is the kind that generally causes the epidemics, as parents are loath to keep chil-

*Read before the Christian County Medical Society.

dren in quarantine when the illness causes no more inconvenience than this.

In the severe cases the onset is usually gradual, a few days of indisposition, with or without soreness of the throat, or as happens sometimes, the first symptoms to be noticed is a chill or severe aching and a high temperature, in such cases, once or twice, I have suspected mumps from the enlargement of the cervical lymph glands, the mouth being opened painfully and face slightly reddened, patient is restless, sick stomach, anorexia, hard breathing, instead of keeping upon the boundary of the tonsils membrane spreads rapidly to the uvula, fauces and pharynx, and the more rapidly it invests these the harder you've got to fight, patient always complains of excessive mucus in the mouth, painful expectorations and difficulty in breathing through the nose, patient wants to sit up, can breathe better, tongue is dry and sore, breath offensive, and in some cases fluids will be regurgitated through the nose; where intense toxemia is present, we have the prostration and stupor accompanied with the restlessness, pulse weak and thready, when the disease spreads to the larynx we have hoarseness and the croup cough, after one has once seen the facial expression and the maneuvers of a child suffering from this form of diphtheria it can not be mistaken and in my practice laryngeal is the most dreadful of all forms, experience has taught me that whenever in doubt about the diagnosis to use antitoxin, sometimes the cases we least suspect prove an undoing and in this day of good weapons to fight with, let's take opportunity by the forelock and fight for our little fellows mightily.

We have saved more lives in the last ten years by the use of antitoxin than all of the peace congresses will save from violent death in the next fifty years.

PNEUMONIA.*

By J. D. ROBERTS, Stanley.

Pneumonia is a wide-spread disease and found in all parts of the world. We have different kinds of pneumonia; namely, croupous, catarrhal and metastatic croupous pneumonia sometimes called lobar pneumonia or lung fever.

The development of croupous pneumonia is dependant upon many causes, some of which we do not know. Some cases are those external to the body, which produce a condition in the individual favorable to the growth of the specific germ and internal causes which exert similar influence, such as heat, cold and exposure to dust and bad air and a debilitated system of the individual.

Croupous pneumonia is a disease particularly apt to attack those advanced in years. Such patients seeming to have little resistance to its attack. This inability to resist the infection depends upon at least two causes, viz: a feeble heart muscle, which cannot meet the circulatory demand of the disease or resist the depressant effect of its toxins. A diseased kidney, or kidneys, impaired in function, whereby toxic material cannot be speedily eliminated, and the general result of which the vital resistance of all the tissues are diminished, so that not only the micrococcus lanceolatus is permitted full sway, but the patient is also placed in a favorable condition for the growth of other infecting micro-organisms, which aid in producing a fatal issue.

It is because of these factors that pneumonia so frequently attacks those in ill health, or who are suffering primarily from some other malady,

In studying croupous pneumonia it must not be forgotten that the disease, at least in some cases, is a general infection with the micrococcus lanceolatus or pneumococci. The morbid changes being modified in the lungs as is typhoid fever in Peyer's patches. The pneumococci are found in the blood during the progress of this disease, with great frequency. While it is true, as already stated, that croupous pneumonia is in its typical form due to the pneumococcus, it is also a fact that lobar or consolidation of the vesicular portion of the lobe or lobes may arise from infection from other microorganisms, but such an accordance is, however, rare. The non-specific infection resulting usually in abortive changes or running a course at variance with the true infection.

PRIMARY STAGE.

The first changes taking place in the lung in croupous pneumonia is a hyperaemia of the intervesicular tissue of the lobe or lobes about to be consolidated. The congestion rapidly becomes more marked and is accompanied by the exudation, into the air cells, containing red blood cells with serum and fibrinous material, which speedily becomes solidified, so that the part of the lung which is affected may, in the course of a few hours, be devoid of air and impervious to its passage, except in those bronchial tubes of some size.

In the stage of red hepatization the lung is enlarged and red from the amount of exudate and the red blood cells. The exudate in many cases are extremely large as shown by the fact that a lung may increase in size and weigh seven or eight pounds. At the stage of gray hepatization the acute inflammation has passed the system is trying to rid itself of the waste products caused by the disease, which is accomplished by the cells undergoing

*Read before the Daviess County Medical Society.

a fatty degeneration and granular changes, with fibrin softening. During resolution the exudate is gotten rid of by absorption and expectoration, finally air cells are freed from the exudate which has been filling them. The epithelial lining then is reproduced and recovery results. In some cases the normal process of resolution is not followed and in its place organization of the material which takes place to some degree, now connective tissue is proliferated into the air vesicles from their walls, and fibrinous bands and blood vessels extend throughout the part of the lung affected in this way simultaneously a similar growth takes place in the interstitial tissue and so the lung gradually becomes consolidated by over growth of fibrinous tissue. The period of incubation is from forty-eight to seventy-two hours. The variance of attack of pneumonia depend not only upon the virulence of the infecting germ and the susceptibility of the patient, but upon his habits and his surroundings, age and his general health. If the patient is feeble it sometimes happens that the onset is insidious and no pain felt. This is especially apt to be true when the disease follows alcoholism, or renal disease; the temperature takes rise after or during a chill to 105 or 106 and remains throughout the disease. The variation of morning and evening temperature not more than a degree in difference.

The treatment of croupous pneumonia consists in keeping the patient comfortable, plenty of fresh air and sunshine with as few drugs as we can possibly use. We use the following drugs according to conditions and complications, if there be any, quinine sulphate, Dover's powder, tr. aconite, tr. belladonna, tr. digitalis and strychnine use these according to age and condition with hot and cold sponging, give patient a light, soft, nutritious diet, easy to digest.

Lobular pneumonia is an acute infection of the small bronchials and the tissue immediately surrounding them and primarily involves the lobules rather than lobes as does the croupous type of pulmonary consolidation.

No single or specific organism is the cause of broncho-pneumonia, but due to infection of the bronchi and adjacent tissue by many pathogenic germs, but is principally caused by the streptococcus or staphylococcus, also the Klebs-Loeffler bacillus; also this disease seems to follow measles, whooping cough and diphtheria, old age and debility are predisposing causes. This form of pneumonia, at least in its earlier stage, occurs in patches and the exudate contains less fibrin than in croupous pneumonia. The exudate of broncho pneumonia undergoes resolution as do most inflammatory exudates.

When a child is attacked with broncho-

pneumonia there is usually a chill at onset which varies greatly with severity, as rise of temperature, increase in respiration, the irregular pulse of pneumonia is of evil import, the cough is fairly constant, which sometimes produces pain, increased respiration is for protection of the affected side.

Auscultation will probably reveal some fine rales in some of the finer bronchial tubes with exaggerated inspiration and somewhat prolonged expiration. We may also have dyspnoea or cyanosis or both. Very speedily too much carbonic acid gas accumulates in the blood and benumbs the child so that it may be motionless except rapid respiration, which are required to maintain life.

The duration of broncho pneumonia varies greatly with the condition at the time of the onset of the disease. The prognosis of broncho pneumonia varies greatly with the underlying causes and the age of the patient. In very young infants the prognosis is exceedingly fatal. In the treatment of broncho pneumonia give the patient plenty of fresh air and sunshine if possible.

No medicines which interfere with digestion should be given with the food.

For external applications use turpentine and sweet oil, or turpentine, coal oil and lard with quinine sulphate. Give some anodyne to maintain quietude, also hot baths, then wrap in hot blanket before drying patient. For a stimulant use carbonate of ammonia.

In some of the critical periods we use Hoffman's anodyne, also in others strychnine. If the bronchial secretion is considerable, particularly in the suffocative form, a critical period may be overcome by small doses of atropine. The use of antipyretics are to be condemned in these cases. To control temperature use hot or cold baths, as the condition may demand. During the acute stage there is resolution if the secretions are profuse, use small doses of chloride of ammonia with fluidextract licorice in water.

The younger the child the less chance there is to free the lungs of exudate by coughing, and care should be taken not to hinder nature's work, only aid to free the exudate, aid digestion, which is of great importance to maintain the health of the child. Keep up good elimination by all the natural channels possible.

Give you treatment heroically while they are able to take and retain for when they become so devitalized as to reject any and all treatment for a recovery this being my motto, give while able to take and retain.

CASE REPORTS.*

By E. J. BROWN, Stanford.

As I was permitted to select the topic for paper at this meeting we will report a few cases and pathological specimens.

CASE I.

We present this young man to you, for whom we have operated for mastoiditis. He is 19 years of age, father and mother both living, and his history is negative except diseases of childhood, and pneumonia, which preceded this infection of the mastoid cells. He called at office on February 3rd, presenting the usual symptoms of beginning pneumonia. We were called next morning to see him and found him with unilateral pneumonia. He reached crisis on February 12th, and began to clear up, when on February 17th we were called to see him and found him suffering intensely from infection of left mastoid. Temperature about 101 and pulse 90. Tenderness, redness and swelling was marked over mastoid region. We did not make blood count in this case, yet it should be done in all these cases. The diagnosis was positive. We realized the importance of immediate operation, but he was yet weak from pneumonia and we feared the effects of the anesthetic. On February 24th, Dr. Phillips and Dr. Harmon assisting, we opened up the mastoid with chisel and drill and found large quantity of pus. We did no damage to the nerve or sinus. Packed with iodoform gauze. The after treatment consisted of gentle irrigation and light packing. You observe the scar, which shows but little depression. The only special feature in this case, it was sequel of pneumonia and had we made microscopical examination, which we should have done, no doubt would have found pneumococcus infection. As you see he is regaining flesh and strength.

CASE II.

We show you section of fibroid uterus. Mrs. R., age 35 years, housekeeper, mother of two children. No history referable to the pelvic organs except heavy bearing down sensation when on feet too long. Was called to see her on October 26th, 1911. Found her bleeding from uterus and found she had aborted, from history and size of foetus, about third month. In removing debris and clots, I found uterus of unusual size. I at once made diagnosis of fibroid tumor.

Dr. J. F. Peyton saw this case on the following day with me and confirmed diagnosis. We realized the peril in the future, she would be subjected and advised operation, notwithstanding she had just aborted, and added

some to the risk. The request was granted. Having procured a nurse, and making all necessary preparations, on October 29th, assisted by Drs. Peyton, Phillips and Craig, we did a supra-vaginal hysterectomy. She made splendid recovery and weighs more now than ever before in her life. Writers, possibly fail to emphasize, among the other conditions arising in these cases, the danger in habitual abortion, produced by fibroids. She is now secure against the many dangers incident to life, in women of her age with a fibroid. Had she been older and reaching menopause, conservation might have been considered. Injury to the bladder and ureters in hysterectomy, and in fact all pelvic work, is *bête noir*, to the man who does limited amount of abdominal work. I have a method in those cases, to relieve my mind of that dread which follows for several hours after operation as to whether the urinary tract is damaged or not. We give a few tablets of methylene blue for two or three days before operation and if any injury is done the color shows at once on the clean sponged surface. It also saves smelling and tasting of the fluids which appear from time to time in the field of operation. Hemostasis is the most important point in these cases and the most difficult to procure. Avoid over-stimulation with strychnia, adrenalin, vomiting or any and all the things that stimulate the heart and raises blood pressure. Secondary hemorrhage is more dangerous in country work, because of the inaccessibility of the physician. The symptoms of hemorrhage are too well known to all to require comment. Nurses should be thoroughly drilled in this particular phase of surgical work.

CASE III.

The next case we report is a case of hepaticotony. We hoped to have patient here today but she lives in the country, and her physical condition is not such yet as to have her ride over rough pike. The patient, female, age 56 years, mother of eleven children, no previous illness, except some form of nerve affection about 15 years ago. Never had typhoid. Her present illness dates back seven or eight years, having been treated often for stomach trouble. I was called to see her on February 6th, and found her with pain and tenderness over gall-bladder. Murphy's perpendicular percussion elicited quite severe pain. She had never been jaundiced. I was called to see her again in two or three days, suffering more and jaundiced. We spoke to her about surgery, but did not insist, and told her we would palliate her as much as possible, and operate if it came to emergency. Now this is the way to win over country patients to surgery. Every one of them have in store, for reply when you urge surgery, some cases

*Read before the Lincoln County Medical Society.

where the patient was told by some surgeon that they were bound to die if not operated. They will tell you operation was refused and the patient is well to-day. She went along gradually improving, symptomatically, until March 1st, when she began to feel much better, and thought she would soon be well. On March — she had an acute attack, followed with marked jaundice. We again called to see her and she willingly consented to operation. We secured a nurse, prepared patient, and on the next morning, assisted by Drs. Peyton and Phillips, we did hepaticotomy. The Kocher incision was made, the gall-bladder was empty, contracted, and adhered to underlying structures. With gauze pads we protected cavity and carefully loosened adhesions, until we could palpate ducts. We found the cystic and common duct clear, but large stone in middle third of hepatic duct. I should have stated that the patient had no elevation of temperature or pulse before operation. The contraction of the gall-bladder was evidently due to its non-functionating. The stone could not be milked into the common duct or back through the cystic duct. We picked up the duct between thumb and finger and incised directly over the stone. After removing the stone, which we herewith present, it was as large as a sparrow egg before it was crushed. We stitched over incision with fine gut and passed rubber tube, wrapped with gauze down to incised duct and closed in usual way. The jaundice began to clear up at once and she had done well. Digestion is fair and she is able to walk about the room. It was many years after Sim's unsuccessful, and Tait's successful, cholecystotomy, before Kocher did hepaticotomy. It is the rarest operation of the gall-bladder system. We followed as near as possible, the technique of Moynihan, of Leeds, England. Hemorrhage, which is always dreaded in jaundiced patients, gave us no trouble, yet we took no precaution, as is advised by Mayo Robson, by administering calcium chloride for a few days previous to operation.

CASE IV.

Prostatectomy. Mr. D., age 77 years. Had been troubled for five years, frequent desire to urinate with difficulty to start urine. The symptoms increased all the time until we saw him on January 12th. He came to our office and demanded relief, life was not worth living in his present condition. Rectal examination revealed a large prostate, as we here present to you for inspection, weighing over 16 grammes. Urine examination showed pus, mucus, and alkalin in reaction. Physical examination showed a man who had formerly been very strong, but long continued sepsis had sapped his former vitality. He was a

very sick man and miserable in his own eyes. We told him the death rate was high in those cases. He said it made no difference as he could not live in this condition, had no special desire to. We had him go to bed, placed him on diet and urinary antiseptic, washed out the bladder frequently and soon had him in fair condition. On January 19th, assisted by Drs. Peyton, Phillips and Craig we did suprapubic prostatectomy. The lobes were large and incision of the capsule was made with scissors, they peeled out easily. Hemorrhage light. Drainage from start was perfect. Used sound on third day. Drainage opening closed in three weeks. Formerly was up and down a dozen or more times a night with great pain. Now he gets up only once during the night and with perfect comfort. He has regained much of his former vitality and looks to be many years younger than he is. The preliminary preparation has much to do with results in this class of cases. The extremes of life should not be deprived of great good which may be given them by timely surgery. I show to you an old photograph of a boy who is now a young man, on which I did intestinal resection upon the day he was 35 days old. It was a case of congenital hernia which became strangulated and gangrene was the result. We would not have operated if we had known it was gangrened, but we found nothing else to do when we found such condition existing. We did end to end anastomosis, and the little fellow did well from the start. This is the youngest case of resection we have been able to find on record. So let's be generous and give all a chance for life and comfort.

As to the after-treatment of these abdominal cases, I know of nothing better than that given in an article in the March number of our STATE JOURNAL, written by Dr. L. S. McMurry. The old method of drastic purgation, long starvation, withholding of fluids before and after operations, seems to-day like a relic of barbarism. We must be careful or the pendulum will swing too far in the other direction. That article states that water given after operation, though vomited, makes no difference. If the patient is just from the operating table, and not retching and water produces retching, in many cases of abdominal work, it would be far better to withhold the water. For example in all the ostomies of the stomach and intestines, with the tissue like structures and delicate sutures a single retch may seal the destiny of that patient, before adhesive inflammation has had time to make sufficient repair, to withhold the strain produced by the contraction of the voluntary and involuntary abdominal muscles. As we said before in this paper, in speaking of secondary hemorrhage, anything that stimulates the heart or rises blood-pressure may liberate

a struggling vessel or release a poorly tied ligature. The discussion of that paper deals, possibly, too lightly with drainage. In septic cases the modern technique has never lessened the necessity for drainage, and if done at all, should be done effectually. Tait said, "When in doubt drain." The question of irrigation, in pus cases, was discussed also. Is not the patient better off with sterile water in the belly, than when it is full of ill-smelling, germ-laden pus? By not using any complicated apparatus, for irrigation which we will grant might produce some traumatism, but make triviale speculum with three fingers and gently flow in pure water until it returns clear, what results could come of it except for good? It was said in the discussion of that paper that you destroy the leucocytes. We never knew a phagocyte ever did anything after it passed out into the free cavity into a pool of pus except to make more pus by being converted into pus. The "Fowler" position is an acknowledgement of imperfect surgery. The cases which need drainage, are already very sick and often anemic when they go on the table, then they get the surgical shock, anesthetic shock and the psychical shock, hence to bring them around after all this they need blood in the brain, "anti-Fowler position." If the work was as complete and the toilet as perfect as was done by the lamented Joseph Price, and is now done by his successor, Dr. J. W. Kennedy, the "Fowler position" would exist only in history. Puncture surgery and imperfect surgery have created the demand for the Fowler position. Well, but hold on, they say; our patients get well. "They breathe" but they are miserable from the effects of inflammatory products and adhesions. They are the harvest for post-operative work.

Diagnostic Intradermal Reaction in Syphilis.

Fontana has experimented with various substances, sodium glycolate, lecithin, etc., injecting them into the skin by the intradermal technique. None proved reliable for eliciting a specific reaction except a glycerin extract of syphilitic livers or superficial lesions. Scraps of a condylo-ma lata, swarming with spirochetes, were triturated with five times their weight of neutral glycerin and after standing for ten days in a cool place the fluid was filtered and distributed in vials fused and kept at 56° C. (132.8° F.) for an hour on three successive days and then set aside in a cool place again for two months when the "syphilin" was ready for use. In sixty-seven tests, the syphilin gave positive findings in 47.5 per cent. of the cases while the Wasserman reaction was positive in 85 per cent.; in the primary and tertiary phases the two reactions constantly paralleled each other. The method is thus not without value and when the technique is further perfected may prove important.

NEWS ITEMS AND COMMENTS

BOYD—Dr. Farris L. Allen, of Ashland, visited the State Board laboratories and was much pleased with them.

CAMPBELL-KENTON—Free Dispensary opened recently at 1014 Russell Street, for tuberculous patients.

CAMPBELL-KENTON—Dr. T. J. Glenn was elected City Bacteriologist by the Board of Health at our last meeting.

WARREN—Dr. E. N. Hall and Dr. J. H. Blackburn are the happy owners of a new 30 horse-power Buick each.

BOONE—Dr. L. C. Hafer and family, of Florence, have returned from Florida, where they spent the winter.

HARRISON—Dr. H. T. Smiser returned on May 1st from Arizona, where he spent the winter. The doctor is much improved in health.

GARRARD—Dr. J. A. Amon, Lancaster, has a new 30 horse-power Buick. All our physicians are using or contemplating using machines.

WARREN—Miss Laurie Clay, of Lexington, the noted suffrage platform lecturer, visited the laboratories of the State Board of Health last month.

GRAVES—Dr. Lilian H. South, State Bacteriologist, gave an interesting lecture on "Hookworm," at Mayfield, and had quite a large audience.

Harlan—Pellagra has again invaded Harlan county and several cases of a severe type have been reported in the immediate vicinity of the town of Harlan.

ALLEN—We are sorry to learn of the death of Mrs. W. A. Callis, wife of Dr. Callis, of Scottsville, and extend our deepest sympathy to him in this great bereavement.

OWEN—Dr. Maurice Bell, Monterey, President of the Owen County Medical Society, has returned to his home after undergoing an operation for inguinal hernia, at Norton Infirmary, Louisville.

SIMPSON—Dr. M. M. Moss, of Franklin, has returned from New York City, where he has been doing special work in Eye, Ear, Nose and Throat. After July 1st, he will be lo-

ated in Bowling Green for the practice of his profession.

Onio—Dr. Palestine Willis, of Cronwell, has moved to Beaver Dam, Ky. Dr. A. B. Riley and Dr. E. B. Pendleton, Hartford, have just recently recovered from smallpox. There are several cases of smallpox in Hartford and Centertown neighborhoods.

CAMPBELL-KENTON—The foundation for the New Elizabeth Hospital is about completed. The hospital will be modern and contain 300 beds. There will be five separate buildings which will occupy one whole square. The buildings will be four stories in height and will cost, when finished, \$250,000. It is being built by the Sisters of the Poor of St. Francis.

MAGOFFIN—Dr. Freeling Taylor, of Lykins, Magoffin County, who went to California a short time ago for his health, was operated on in that State for some kind of kidney trouble from which operation he never rallied. He graduated from the Kentucky School of Medicine, at Louisville, in 1889; was a successful physician and his place will be hard to fill in this county. He was one of the best posted physicians in the mountains in a general way.

IN MEMORIAM

DR. H. C. DUVAL.

Dr. H. C. Duvall, aged 68 years, died at his home, Millwood, on April, 1912, of organic heart disease. Dr. Duvall was one of the oldest and most prominent practitioners in Grayson county, having practiced his profession actively for forty-seven years. At the time he began practicing there was not a clinical thermometer or an hypodermic syringe in the county. He graduated in 1875 at the old University of Louisville. He located first at Big Clifty, Ky., and was for years associated with the late Dr. Terry, a profound friendship soon existed between him and Dr. Terry which lasted throughout their lives.

He was active and energetic in his practice and successful from the start. He held many positions of honor and trust during his career, being at his death the President of the Grayson County Medical Society and was always an active member of the society, while his health in late years was precarious, yet he rarely failed to attend the regular meetings. He was for several years surgeon for the I. C. R. R., at Big Clifty, Ky., and on his removal to Millwood was appointed surgeon for the company there. He was for several years health officer and member of the Board of Health of Grayson County, and was always active and efficient in the discharge of

his duties and for the cementing and upbuilding of the medical profession.

Religiously he was a member of the Baptist church and moderator of the church at the time of his death. He was greatly beloved by all who knew him, being a congenial spirit and fine story teller, he had a great fund of humorous anecdotes and experiences which at all times enabled him to entertain his hearers and made his presence a welcome one at all gatherings.

Lastly it can be said of him that his life was not in vain. His life was clean and worthy of imitation, his career was eventful. He accomplished much in the short space of time that was allotted to him to live and we hope and believe that the good that he has done will like "The bread cast on the waters return to him after many days."

RESOLUTIONS.

Whereas, the Great Creator in his wisdom has seen fit to remove from our midst a worthy brother practitioner, President of our County Medical Society and member of our State and National Associations, in the person of Dr. H. C. Duvall, of Millwood, Ky.

Be it resolved by the Grayson County Medical Society:

1st. That our County, State and National Medical Associations have lost a most honorable, active and earnest member, and we deplore the fact that his voice and presence in our Society is forever ended.

2nd. That we extend to his family our most sincere sympathy in their great bereavement, believing as we do they have lost a kind and indulgent father and husband and the community one of its best and most substantial citizens.

3rd. That a copy of these resolutions be handed to the bereaved family, and a copy be sent to the Leitchfield Gazette and Kentucky State Medical Journal for publication.

B. C. WILSON,

W. S. CLARKE,

J. W. CONKLIN,

Committee.

COUNTY SOCIETY REPORTS

Graves—The Graves County Medical Society met at the court house May 1, 1912, at 10 o'clock a. m. The president being absent, on motion of Dr. H. H. Hunt, Dr. John G. Puryear was elected chairman pro tem.

Minutes of last meeting were read, approved and adopted.

The applications of Dr. Richard Keys and Dr. M. W. Hurt for membership were acted upon favorably and they were unanimously elected to membership of the Graves County Medical Society.

The following officers were elected for the ensuing year: President, John G. Puryear, May-

field; First Vice President, M. W. Rozzell, Mayfield; Second Vice President, W. B. Stokes, Farmington; Secretary-Treasurer, Richard Keys, Mayfield.

A vote of thanks was unanimously extended to H. H. Hunt, the retiring secretary and treasurer for his long and efficient services as such.

E. G. Thomas, of Marshall county, made a short talk on surgery with report of cases.

J. G. Puryear made an interesting talk on vomiting in pregnancy with report of case, followed by short discussion by Drs. Fuller and Hunt.

B. F. Green made a talk on membranous croup with report of cases.

E. G. Thomas made an interesting talk on Marshall County Medical Society.

W. H. Letcher brought a patient before the society for examination and it was decided to be a case of gall stones and proper treatment was recommended.

There being some misunderstanding as to the classification of insurance companies doing industrial business and fees to be charged for examination in same, the subject was brought before the society for discussion and settlement on motion of Dr. G. T. Fuller, seconded by Dr. J. H. Shelton.

Various motions and amendments were put before the society and after a very heated discussion, Dr. Hunt upholding the industrial side of the question, they were all tabled and it was decided to refer to the State society as to whether they accept the fees as is adopted at present by the industrial companies.

The noon hour having been reached the society adjourned until 2 o'clock p. m. Society was called to order by the President.

J. H. Shelton spoke on "Are Doctors Going to Charge Morphine Habitués for Prescriptions?" discussed by Drs. Richmond, Stevens, Fuller and Wesson.

J. C. Sullivan spoke on "Hio-Colitis," discussed by W. J. Shelton and Dr. Wesson.

W. W. Richmond spoke on "Hookworm."

Dr. Richmond was followed by Dr. Lillian South, of Bowling Green, State Bacteriologist, who gave a highly interesting talk on technique for collecting specimens and making examination for hookworm, tuberculosis, typhoid fever, etc.

The society then adjourned to meet at the court house at 8 o'clock p. m., and Dr. South delivered her famous lecture on hookworm, typhoid, tuberculosis, etc., illustrated with stereopticon views. A large crowd was present, men, women and children, and it was pronounced by all to be highly entertaining as well as instructive and educational and the Graves County Medical Society extends to Dr. South its thanks and appreciation for the excellent talk and will gladly welcome her into our midst again.

W. W. Richmond, of Clinton, closed with quite an instructive talk on hygiene.

RICHARD KEYS, Secretary.

Ohio—The Ohio County Medical Society met in the office of Dr. S. D. Taylor, Beaver Dam, Thursday afternoon, May 2nd, at 1:30, with the following members present: S. D. Taylor, J. W. Taylor, E. W. Forl, J. O. McKinney and Oscar Allen, Dr. George Mitchell visitor.

The meeting was called to order by J. W. Taylor, the president; minutes of last meeting were read and approved. Dr. J. A. Duff's application was acted upon resulting in his being unanimously elected to membership.

J. W. Taylor presented a case of sprain of the sacro-iliac synchondrosis.

E. W. Ford reported a case of supposed erythema nodosum.

J. O. McKinney reported a case of dermatitis resembling the eruption seen in pellagra.

E. W. Ford gave us some of the more important things with which he was impressed while at the Chicago Polyclinic. Among which he mentioned the universal use of rubber gloves in all surgical operations; ether as an anesthetic; Iodine as a disinfectant; Scarlet red salve in the treatment of ulcers; A gauze mask for the face and a paste board splint for the elbow in treating facial eczema among children. The importance of obtaining the blood pressure in many diseases. The importance of an early diagnosis of tuberculosis and its treatment with tuberculin. The importance of absolute quiet in ulcer of the stomach and raising the percentage of haemoglobin above 80 per cent.

Oscar Allen read a paper on "Hio-Colitis."

Program for next meeting: **J. W. Taylor**, "Arteriosclerosis"; **Willard Lake**, "Gastro-enteritis."

Adjourned to meet Thursday, June 6th, 1:30 P. M.

OSCAR ALLEN, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: J. H. Barbour, P. N. Blackerly, O. W. Brown, J. A. Caldwell, N. B. Chipman, H. C. Clark, N. H. Ellis, S. M. Hopkins, W. A. McKeeney, John E. Wilson, J. Ed Wilson, K. B. Woolery, W. H. Yelton and J. F. Daugherty. The meeting was called to order with the President in the chair, and after roll call and reading of the journal of the previous meeting, we proceeded to the business of the day, after a few reports of clinical cases.

There being no essayist ready with papers, we entered into a general discussion of matters pertaining to the welfare of the society, after which we adjourned.

April 10, 1912.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at Falmouth, with the following members present: J. H. Barbour, Beckett, Blackerby, Brown, Clark, Dagherty, Ellis, Hopkins, Kendall, McKenney, Nichols, John E. Wilson, J. Ed Wilson, Woolery and after roll call and reading of the journal, we proceeded to the business of the day. Under new business Dr. Clark made a motion that the secretary write each of our United States Senators and request them to support the Owen Bill.

We had some very good reports of clinical cases, after which we adjourned until afternoon, when the reading of papers and their discussion was taken up.

C. H. Kendall read a splendid paper on "Fatty Heart," which was discussed by several members present.

John E. Wilson then discussed "Acute and Chronic Myocarditis," in a very thorough and comprehensive manner, as he is very capable of doing. This led to a general discussion of the subject and some very rare and interesting experiences were reported, which was highly appreciated by all.

This closed the meeting for the day and all left feeling that they had been greatly benefited by the meeting.

W. A. McKENNEY, Secretary.

Simpson—The regular meeting of the Simpson County Medical Society was held on May 7, 1912, in Franklin with a good attendance.

M. M. Moss brought up for discussion the new treatment of goitre, namely that by ligation of the thyroid arteries. During the lengthy discussion several cases of cure or partial cure were reported by other methods of treatment.

There were several case reports by other members present and Dr. Venable asked the members to report any cases of suspected hookworm and send in samples of feces for examination. Thus far this disease has not been found in our county.

F. E. McCann will be essayist at the June meeting with a paper on "Autointoxication."

The Simpson County Medical Society will entertain the Tri-County Medical Society in Franklin in July.

F. E. McCANN, Assistant Secretary.

Warren—The Warren County Medical Society entertained the Tri-County Medical Society April 9, 1912. An elegant dinner was served at the Morehead Cafe. Many interesting papers were read. The regular proceedings will be reported by the secretary of the society.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, May 8, at 1 P. M., with the following doctors present: T. W. Stone, F. D.

Cartwright, D. B. Stone, Huddle, Souther, Hall, South, Blackburn, W. C. Strother, Wm. Drake, Helm, London, H. P. Cartwright, Abernathy.

J. H. Souther reported a case as follows: A young lady of neurotic temperament, had a "fit" about three years ago, thought at the time to be due to eating too much hog meat. Several days ago the same symptoms recurred, was unconscious, muscles of the hands contracted, hallucinations, delirium, no pain, a diagnosis of hysterio-epilepsy was made, and concurred in by the society.

J. H. Blackburn reported a case of hookworm in a family two miles from Bowling Green. Father, mother and six children were heavily infected.

W. C. Strother reported a case of congenital syphilis in a child three weeks old. Irregular enlargements on the right thigh.

T. W. Stone reported a case of acute rheumatism treated with phylacogen, with excellent results.

F. D. Cartwright reported a case of gonorrheal rheumatism.

The program for the next meeting was arranged. Syphilis was decided upon as the subject for discussion.

F. D. Cartwright will conduct a quiz on the subject. L. H. SOUTH, Secretary.

"Case Histories in Neurology," by Dr. E. W. Taylor. Published by W. M. Leonard, Boston. Price \$3.00.

The object of this book, the third volume of the "Case History Series," is to set forth in practical form the fundamental facts regarding the symptomatology, diagnosis, treatment and pathological findings in the more frequent disorders of the nervous system.

The first section presents a General Statement of Diagnostic Methods.

The follow the main divisions of the book: First, Diseases involving Peripheral Nerves; second, Diseases of the Spinal Cord; third, Diseases of the Brain; fourth, Conditions of Undetermined Pathological Basis; fifthly, Psychoneuroses.

The book contains 114 case histories, classified in the sections named.

In addition to the general introduction each chapter has its introduction and summary.

Each case is carefully considered, much attention given to differential diagnosis, and possible methods of treatment are stated.

Numerous graphic illustrations and frequent "notes" commenting upon, and comparing cases, denotes the painstaking teacher of post-graduate classes.

The book is a broad and carefully prepared clinical course in Neurology, dealing with actual cases and supplementing in a way that makes the book not only one of great value, but also very interesting, the teachings of the general systematic text-book.

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ORIGINAL ARTICLES

CARCINOMA OF THE UTERUS.

By HARRY J. PHILLIPS, Louisville.

Carcinoma may arise from any part of the uterine mucosa—from the cylindrical epithelium of the corporal or cervical glands, from the surface cylindrical epithelium of the interior of the uterus, or from the pavement epithelium outside the external os. The variety of the cancer corresponds to the type of epithelium from which it springs. Cylindrical cell carcinoma occurs in the intracervical mucosa, and the pavement cell variety occurs on the external vaginal surface of the cervix. However, this rule is not invariable, because we frequently find cylindrical cell carcinoma outside of the external os, due to eversion of the intracervical mucosa. Again, pavement epithelium may be present in the cervical canal, or even in the cavity of the uterus, and there give rise to pavement cell carcinoma.

Pathologically, we find two varieties of carcinoma. One type is that in which the squamous cells of the cervix have multiplied in an atypical manner and have invaded the deeper tissues; this is the so-called epithelioma, like that which occurs at the junction of the skin and mucosa of the lip. The other type is that in which the cylindrical cells of the interior of the cervix and body of the uterus multiply in an atypical manner, forming the carcinomatous type.

Cancer of the uterus usually begins near the external os, where the cylindrical and pavement epithelium meet. Early in the disease the growth either confines itself chiefly to the

superficial areas, or extends to the submucous structures. When it invades the deeper tissues the diseased part is enlarged, marble-like, hard and friable. The growth rapidly extends and ulcerates early. The margin of the ulcer is irregular, hard and raised. The base is irregular and bleeds easily. The ulcerative process may slowly or rapidly destroy the cervix. This form is called the infiltrating, or nodular carcinoma.

The papillary, or cauliflower cancer, confines itself, in the early stages, to the superficial structures; it begins on the vaginal portion of the cervix, rapidly spreads to the vaginal walls, fills the upper part of the vagina, ulcerates early and bleeds freely. The growth is soft, vascular, and tends to rapid destruction of the cervix and vaginal walls. Rarely the ulcerative process destroys and excavates the walls of the cervix before the disease makes its appearance on the vaginal portion.

ETIOLOGY.

The lower classes of all races are more susceptible to this disease than the higher, and it is more frequent among the white races than among the negroes and the Asiatics. Carcinoma is found very frequently in the cervix, doubtless because the cervix is more exposed to the influence of coitus and to the trauma of parturition. The nulliparous uterus, and more especially the nulliparous cervix, are practically immune. Laceration of the cervix is a clearly recognized predisposing cause; in fact, the disease seldom occurs on the non-lacerated cervix. It is rare before the age of 20 and after 70, not uncommon between 30 and 40; and most common between 40 and 60. The influence of heredity as a cause is considerable.

FREQUENCY.

According to the Registrar-General of Great Britain, in 1900, in England and Wales, 9.97 women per 1,000 of inhabitants, died from cancer, and of all female deaths cancer of the uterus caused 1.3 per cent. In 1890, but 0.83 women per 1,000 of inhabitants died from cancer. In New York, in 1890, the deaths from cancer in women were 0.37 per 1,000, and in 1900 they were 0.43. These figures show the ratio of increase of cancer in women, most of the increase being in cancer of the uterus. And of all cases of cancer which occur in the body, Wm. H. Welch found that the uterus was involved in 29.5 per cent. There is no means of accurately determining the ratio between true cancer, sarcoma and deciduoma malignum. Sarcoma and deciduoma malignum are very rare. The one fact which is impressively evident is the steady increase in cancer of the uterus.

AGE.

In New York, in 1890, 57 per cent of all deaths from cancer were below 45 years of age. The statement that the disease occurs more frequently than formerly in young women is not correct. The apparent greater frequency is due to the fact that a diagnosis of the disease is now made earlier than it formerly was. The maximum number of cases occur above 45 years of age. It is exceedingly rare before 25 years.

SYMPTOMS.

Early in the disease, no special symptoms may manifest themselves. As the disease progresses the following symptoms always appear, viz: hemorrhage, uterine discharges, pain, visceral disorders, and cachexia. As a rule hemorrhage is the first symptom, and is due to the opening of blood vessels by ulceration. This bleeding is too often attributed to irregularities of the menopause, or to a return of the menstrual function after its establishment; and, consequently, the bleeding of carcinoma is often disregarded until the disease has advanced beyond the hope of cure. The appearance of hemorrhage one or more years after the menopause is strong presumptive evidence of cancer, and should cause the physician to make an immediate examination. Likewise, too frequent appearance of the menstrual flow should arouse suspicion and call for careful investigation. The loss of blood is at first slight, and is usually noticed after exercise, straining at stool, or coitus. As the disease advances the hemorrhage increases. It may be intermittent or quite constant, and is usually worst during the menses. The patient's strength is slowly exhausted by a persistent, slow seeping away of the blood; or, on the other hand, severe or even fatal hemor-

rhage may take place. Uterine discharges usually follow soon after the first appearance of hemorrhage. The discharges are watery, foul and very offensive. Early in the disease the discharge may be thin, watery and inodorous. As the ulcerative process increases, it becomes profuse, bloody, purulent, and of a nauseating odor. The bad odor continues to the end and is characteristic of malignant disease. This discharge is called "cancer juice."

In the early stage, while the ulceration is confined to the lower end of the cervix, pain is not constant and, indeed, may be absent. With involvement of the corpus uteri and adjacent structures there may be sharp, cutting pains which are often looked upon as pathognomonic, but which are by no means constant or confined to cancer. The pains are due to pressure on the pelvic nerves, or to involvement of the nerves in the carcinomatous mass; they are usually referred to the pelvis, perineum, or thighs, and usually indicate that the disease is past operative cure. At this stage the limbs become oedematous from pressure and from thrombosis of the pelvic veins. Emboli may be dislodged from the thrombi and carried to the lungs. Then the fatal end is from embolism, septic pneumonia, and pulmonary oedem. Visceral disorders are the result of pressure or involvement of neighboring organs. The bladder becomes irritable. Vesical catarrh, painful micturition, pyuria and cystitis may follow. Nephritis, uremia, hydronephrosis, and atrophy of the kidney are some of the resultant complications. Constipation is common and is usually caused by retention of feces by the patient, who, through fear of pain, voluntarily retains the feces, or the bowel may be so weakened by disease as to be unable to readily empty itself. Diarrhoea is the result of irritation of the bowel by the ulcerative process. There sometimes exists alternating constipation and diarrhoea.

Cachexia is a characteristic symptom and is marked by emaciation, anaemia, a yellowish color of the skin, and great depression of the mind and body. It is caused by supraemia due to the absorption of necrotic tissue, and by malnutrition from loss of appetite, vomiting, pain and hemorrhage.

DIAGNOSIS.

The sooner a cancerous uterus is removed, the greater the security against a recurrence; therefore, the earliest possible diagnosis is imperative. The diagnosis is made by the clinical history, the physical signs, and by microscopic examination.

The clinical history, as just described in this paper, gives strong evidence of cancer but not proof. The physical signs are revealed by examination and inspection. The infiltrating carcinoma of the cervix is recognized as

a hard, thick, nodular, friable growth. The friability is pathognomonic. The ulcers have an irregular, hard, raised margin, and uneven base, and bleed freely. Through the speculum the surface, before ulceration, appears smooth, or nodular, marble-like and glistening. After ulceration, the surface is ragged and irregular, and may show large excavations from the sloughing of the cancerous tissue. The papillomatous, superficial variety appears as a soft, friable, bleeding, cauliflower mass.

Carcinoma of the cervix in the beginning may be overlooked. The cervical wall about the external os may be only slightly thickened, and the induration may appear insignificant. Its extreme friability and persistent bleeding upon slight abrasion will, however, be strong diagnostic factors. Subjective symptoms may even be absent. Microscopic examination is now imperative. Cervical scrapings are usually unfit for examination. A small piece of the unhealthy cervical tissue should be excised and the wound closed by one or two sutures.

Carcinoma of the body of the uterus is likewise, in the beginning, often impossible to recognize. It comes between the ages of 40 and 50. The menstruation is increased and irregular, and this irregularity is often wrongly attributed to the menopause. A slight, watery discharge, even without odor, is strongly diagnostic. If the discharge is malodorous the evidence is much stronger. The general strength and appearance of the patient may be almost up to the standard. Conjoined examination may show nothing except, perhaps, a slight enlargement of the uterus. Life may now depend upon a speedy diagnosis. Everything depends upon curettage and the microscopic findings. Should no microscopic evidence of cancer be found, the curettage must be repeated when hemorrhage returns. In cancer the discharge always recurs promptly. The scrapings are usually more abundant than in benign growths.

Advanced carcinoma of the body of the uterus is, as a rule, easily recognized. The uterus is enlarged, often two or three times its normal size. It is hard, nodular, and more or less fixed. Early fixation also occurs in cancer of the cervix. Positive diagnosis may depend upon the microscope.

The diagnosis of uterine cancer by means of the microscopic examination of curettings from the cervical canal and cavity of the uterus, or the examination of small pieces excised from the vaginal portion, is now generally recognized as one of the most important means of clinical diagnosis. The gross appearance of the curettings is often suggestive, as, instead of the normal, thin, smooth, translucent strips of mucosa, they consist of irregular, shaggy, friable, often granular or waxy-look-

ing strips, which may be of large size. The amount, unless very excessive, is not of great significance, as in simple hyperplastic conditions, retained secundines, etc., a large amount of tissue may be removed. It is often impossible from either the macroscopic or microscopic examination of scrapings, to determine the invasiveness of the tumor, but in the majority of cases the diagnosis offers no special difficulties to the skilled pathologist, as the characteristic alveolar growth, associated with the evidence of rapid cell division and the atypical character of the cells usually found, make up a characteristic picture.

In preparing the curettings for examination, the examination is greatly facilitated if the specimen is carefully prepared, because, if the fragments become shrunken and the cells distorted, a diagnosis is often impossible. A simple and satisfactory method of preparation is as follows:

Immerse the specimen in formalin, 10 per cent. solution, 12 to 24 hours; in alcohol, 95 per cent. solution 12 hours; in absolute alcohol, 12 hours; in alcohol and ether, 12 hours; in celloidin, 12 hours. Block and cut, and stain with haematoxylin and eosin. The curettings should be dropped immediately into the bottle of formalin solution, without previous washing. If a speedier method is desired, the time for leaving in the various solutions may be shortened. If it is desirable to make an immediate diagnosis so as to avoid a second anesthetization, frozen sections may be prepared in the following manner:

The tissue is frozen with ether or carbon-dioxide, sections made and dropped immediately into 10 per cent formalin solution, transferred to 80 per cent. alcohol, washed and stained with haematoxylin and eosin. With this method a diagnosis can be made in from ten to fifteen minutes, about the time necessary to prepare the patient for abdominal section in case a radical operation should be necessary.

It is evident that the physician must be especially upon the alert to detect, first, the slightest symptom pointing to cancer, and then to make at once a rigid bimanual and specular examination of the cervix; or, if the cervix is healthy and cancer of the fundus is suspected, to resort to a diagnostic curettage. The early diagnosis of cancer of the cervix will largely be determined by touch and visual examination. Any irregularity of the cervix which bleeds upon the ordinary vaginal touch should be considered cancer until it is proved otherwise by microscopic examination. Frequently, in my limited experience, I have seen erosions or glandular hypertrophies in cases of laceration of the cervix, which have bled upon touch, and yet there was no breaking off of small particles.

In cases of this character we may proceed upon the assumption that it is merely a lacerated cervix, with a strong suspicion that it may be an early cancer. While we proceed upon the first assumption and either repair or amputate the cervix, we should invariably exclude cancer by a microscopic examination of the excised tissue. In all cases of doubt a pathological diagnosis must be obtained from a skilled specialist. In all cases it must be said that, between a mediocre pathologist and an average clinical diagnostician, the patient stands a very much better chance of cure if the latter's opinion is followed than the former. It is because of the attempt on the part of men not skilled in the determination of pathological changes in the endometrium, or cervical epithelium, to guide the surgeon, that the value of microscopic diagnosis has at times fallen into disrepute. But, if we follow the judgment of a skilled pathologist, very few errors—indeed, much fewer—will be made in clinically doubtful cases than if the clinical side of the question alone is followed. Of course, I am now referring to the doubtful cases, and not to the cases one usually sees. In every city there are pathologists who are reliable, and they should be consulted in all cases of a doubtful character. If this is done, many women will be saved from hysterectomy in which there is no cancer, and others will be hurried at once to a successful operation, who otherwise would have been permitted to go until too late for a cure. Nothing is more reprehensible than to cast aside specimens from a curetage, or from cervical excision, when there is the remotest doubt as to the diagnosis. When submitting tissues to a pathologist for diagnosis, the lines of excision should pass entirely through the suspected area. Every doctor should carry a small, 4 oz., wide-mouthed bottle, containing 4 per cent. formalin, into which scrapings and bits of tissue should at once be dropped.

After the diagnosis of cancer has been made, the next point to be determined is the extent of local involvement, for upon this point depends the decision as to the character of operation to be employed. The vaginal fornix may be the seat of a well-defined ulcerative or cauliflower growth, easily detected by digital examination. But, on the other hand, there may be slight subepithelial metastases outside the area of ulceration, detected as slightly raised or indurated plaques. They are most dangerous because they are most likely to be overlooked. If the cervix is only partly destroyed, and these indurated plaques are distributed over the vaginal fornix, the chief treatment should be the cauterization. If the cervix has been completely destroyed and the vaginal fornix, especially the anterior part near the bladder, is involved, only a palliative

operation is advisable, for no radical operation can offer any hope of cure. Kündrat has demonstrated that the broad ligaments may be the seat of inflammatory exudate rather than of a carcinomatous deposit, and induration, therefore, is not to be taken as an infallible sign of parametrial involvement. If in conjunction with cancer of the cervix there is dense infiltration of one or both broad ligaments, the case is inoperable from the radical standpoint. In judging the extent of a parametrial growth, the pliability of the tissues out near the pelvic wall must be the index, for upon this decision will largely depend the character of surgical intervention. If a wedge-like growth has extended from the cervix out into one or both broad ligaments, and if the outer half or two-thirds are pliable, the radical operation should be performed. On the other hand, if the base of the ligament is stiff and indurated out to the pelvic wall, no operation, or, at most, only a palliative one, may be performed.

DIFFERENTIAL DIAGNOSIS.

Carcinoma must be differentiated from the following diseases: Myoma, benign adenoma, incomplete abortion, endometritis, sarcoma, syphilis, chronic metritis, laceration of the cervix, ichthyosis uteri, and tuberculosis uteri.

Sloughing adenoma, benign adenoma, incomplete abortion and endometritis, each has its peculiar group of symptoms in typical cases. In atypical cases the diagnosis must be confirmed by the microscope. The appearance of early carcinoma of the cervix may be almost identical with that of small cervical myomata or hypertrophy. The diagnostic points are as follows: Myoma and hypertrophy, on section, are hard and resisting. They may undergo erosion, but are not subject to ulceration. On the other hand, carcinoma is friable, narrow-like, and always ulcerative.

Sarcoma has much the same clinical history as cancer, and is recognized only by the microscope.

Syphilis will be known by the clinical history. Specific treatment should clear up doubtful cases.

Laceration of the cervix presents inflammatory and mechanical results that may closely resemble carcinoma of the cervix.

In the vast majority of cases death is from marasmus or anæmia, or both. Hemorrhage, although it may slowly exhaust the patient, is rarely a direct cause of death. Fatal peritonitis from extension of the disease is unusual.

PROGNOSIS.

The sole hope of radical cure lies in surgical removal of the carcinoma. All drugs are of questionable value or useless. If the dis-

case has advanced beyond the limits of a radical operation, death in the near future is inevitable. The disease will sometimes destroy life in a few months or weeks; or, it may for a time become apparently inactive, or develop very slowly and then go on to a rapid termination. The prognosis as to the limit of life should always be guarded. A general statement that death is likely to occur within one year will usually be safe.

TREATMENT.

The treatment is radical when the disease has not extended beyond the limits of entire removal; palliative when it cannot all be removed. The radical treatment should always be complete hysterectomy. The old practice of high amputation of the cervix for cervical cancer should never be resorted to, for one can never be certain that the disease is not also present and unrecognized in the corpus uteri. Hysterectomy is indicated if the disease is limited to the uterus. Such limitation will be inferred, (1) by the normal mobility of the uterus; (2) by the absence of any enlargement of the lymphatic glands in the parametria; (3) by the absence of the disease on the vaginal walls. Enlargement of the glands indicates that the disease has extended beyond the uterus. This does not positively contraindicate hysterectomy, but renders the prognosis less favorable. Whether enlarged or not, the glands should, if possible, be removed. The relation of these glands to the carcinomatous uterus offers a close analogy to the relations of the axillary and subclavian glands to cancer of the breast. Extension of cancer to the vaginal walls, if slight, does not contraindicate hysterectomy, provided the diseased portion of the vagina can be removed with the uterus. Extensive involvement of the vagina and fixation of the uterus in surrounding cancer contraindicate the operation. When the disease has passed beyond the hope of radical cure, but not beyond the limits of palliative hysterectomy, hysterectomy is sometimes performed for temporary relief.

The operative technique of hysterectomy is outside the scope of this paper. The writer, however, wishes to give some good and valid reasons why abdominal hysterectomy should always be performed, when operative measures offer any hope of cure whatsoever. Inasmuch as the abdominal operation allows the operator to secure the ovarian vessels at the pelvic brim, and the uterine arteries outside the ureters; and, again, as by this operation not only the individual lymph glands, but also the lymph channels in the broad ligaments and the greater part of the vagina, if this should be necessary, can be removed, I always prefer this operation for cancer of the cervix or the corpus, if a radical operation is

indicated. The operation permits the broadest section of tissue in an uninvolved field, with accurate removal of lymphatics, thus complying with the first surgical requisite. It further permits of this being done under a preliminary haemostasis, and the vessels and lymphatics are severed before the uterus is subjected to any squeezing, thus eliminating the possibility of extrusion of the cancer elements into the absorbents. Besides, complications can be better dealt with by this route. The abdominal route permits the surgeon to remove all those structures to which cancer normally extends, and in which it has a tendency to recur. In some quarters there is a tendency to apply the vaginal operation to the early cases, reserving for the abdominal operation those in which there are complications, or in which extension of the cancer outside the cervix has taken place. If cancer were free from the tendency to recur, such selection might be proper, but by adopting such tactics the operator is neither just to the operation nor to his patient. If the abdominal operation is the preferable procedure for accomplishing all that can be accomplished for this disease, when complications already exist, it is, I believe, still more strongly indicated in the early cases. No one has a right to rob a patient suffering from cancer of even a fraction of a per cent. of immunity from recurrence. In all cases it is the surgeon's duty to do the most radical operation possible, provided this complies with the surgical and anatomical requirements of the case and does not carry a prohibitive mortality. A woman with early cancer has a greater right to a radical operation than one with the disease in a late stage, for her chances of recovery and of acquiring immunity against recurrence are greater.

The medical treatment of cancer of the uterus consists in the removal of all sloughy and necrotic tissues, so far as is possible, in order to secure cleanliness. After the removal of all the diseased tissues possible by the curette or cautery, further removal of tissue can be secured by the following method: Thin, circular pieces of cotton, about one-half an inch in diameter, are squeezed out in an aqueous solution of chloride of zinc, of 20 per cent. strength. These are packed singly around the cervical cavity so as to completely fill it and come in contact with all diseased surface. Over the whole the vagina is packed with large pieces of cotton wrung out in a saturated solution of bicarbonate of soda. This is important, because, as the serum seeps through the zinc-soaked cotton, it would cauterize the vagina unless neutralized by the soda solution. This dressing is left in position for two or three days. Upon its removal the cervical cavity will be found lined with a gray-

ish slough. Two days later this can be picked away by forceps. In this way repeated sloughs can be produced and removed. When a physician is not provided with an actual canter, this treatment by means of caustic solutions can be begun after the operation for removal of the cancerous mass, as soon as the bleeding ceases. I have tried a number of methods of local treatment and find this the simplest and best. After all unhealthy tissue possible has been removed by this method, the patient should be put on 5 grain doses of thyroid extract. I have seen good results follow in many cases, and in every case the disease has been arrested, for a time at least. The thyroid should be pushed to the point of tolerance.

When pain in carcinoma becomes severe enough, it must be relieved by opiates, using codein first, either externally or by suppositories; then stronger preparations of opium. Section of the spinal nerves has never been resorted to in any of my cases.

Hemorrhage is best treated by tamponade of vinegar-soaked cotton. As the pelvis becomes blocked with cancer masses, obstruction of the bowel occurs. It is then the surgeon's duty to perform colostomy.

The rapidity of the growth of cancer of the uterus may be checked by ligating the blood vessels which nourish it. The plan is to ligate, through the median abdominal incision, the ovarian, the internal iliac and the obturator arteries. After the vessels are ligated and the operation completed, the cancer masses are scraped away through the vagina, and the freest drainage provided for the escape of the discharges. The patient is put upon thyroid extract and tonics. By this treatment life is much prolonged and suffering diminished.

OTHER METHODS OF TREATMENT.

Serum therapy has been employed in a number of cases and in various forms, but without benefit. The cases reported to be relieved have, upon examination, proved worthless for statistics.

Owing to the inaccessibility of the cancerous uterus, the X-ray treatment can be carried out only with difficulty. Injections of various drugs into the cancer mass, such as methylene blue and alcohol, have been employed, but with little or no benefit.

DISCUSSION.

J. Garland Sherrill: This is always a live topic for discussion. I cannot agree with one or two statements made by the essayist, although, in the main, his paper is a very fine one. The question of heredity has, I think at the present time, been pretty much laid aside, as a causative factor in cancer. Upon looking into the question thoroughly, investigators have recently discovered that about as many patients, who give abso-

lutely no hereditary history of cancer, suffer from this disease, as those who give a history of heredity so far as cancer is concerned. Therefore, less attention is attached to the possibility of heredity being a factor in the causation of cancer now than formerly.

It seems to me that the most important thing in the study of cancer of the uterus is to learn how to make the diagnosis early, upon which point great stress is laid by practically all authors. It is a very difficult thing to make an early diagnosis of carcinoma of the uterus. There are several conditions with which it may be confused—a retained secundines, for instance. I saw one case in which bleeding had kept up for six months, without any clear history of a miscarriage. However, the fact that upon touching the external parts there was no hemorrhage, made me suspicious of a miscarriage, and careful questioning elicited the fact that the patient had miscarried about six months prior to the time I saw her. Curettment confirmed this fact, and showed that a large piece of the placenta had been retained. This woman made a perfect recovery and, a couple of years later, was delivered of a fine child.

Again, we may have a case of proliferating endometritis, with free bleeding at and between the periods. I can recall several such cases in my early practice. I particularly recall one case in which I assisted the attendant in doing a curettment half a dozen times, and for a time after each curettment she would be better. Finally, after a number of curettments she made a permanent recovery and is living to-day.

Again, we may have a syphilitic ulcer on the cervix. Syphilis of the cervix, while rather rare, does occur, and when it does occur it is by no means easy to make the diagnosis. I consider it one of the most difficult conditions to differentiate from carcinoma of the uterus within a certain period of time. However, within a few weeks, it will be followed by the usual symptoms. In addition to this, we now have the Wassermann test, which is of great assistance in differentiating between these conditions.

The symptom that we all depend upon is bleeding. First, after the menopause, as mentioned by the essayist. Upon examining the cervix with the aid of a speculum, we find that it bleeds rather easily under the touch. However, we must not overlook the fact that a cervix which has been lacerated looks very red and rosy, and bleeds at times, but still it is not malignant. I would advise every doctor, in cases where he is suspicious of malignancy, to have a curettment made and the scrapings examined under the microscope, which is the only way of positively determining the nature of the trouble. We should also remember however, that curettment of a cancerous cervix may simply ignite the disease. Therefore, I believe that curettment should be followed promptly by hysterectomy in cases where the

microscope proves it to be a cancerous lesion.

As to the operation itself, I think it should be a radical one. Why is it that these cases do not come to operation early? One reason is that these women do not go to the doctor for hemorrhage. Another reason is that, when the average woman suspects that she has a cancer, she keeps it to herself. Most of the laity seem to believe that when one develops cancer, it necessarily means certain death, when the truth of the matter is that, when operated upon early, the mortality is low, and permanent cures are effected in about 40 per cent. of cases. Therefore, we should urge women who suffer from symptoms of this character to come to examination early, and the physician should examine such patients, not once, but many times; telling the patient to come back in the course of a few weeks, until you are sure that no cancer exists.

Now, as to the operation that should be done. It requires a very competent observer to tell when a case is operable and when it is not. This should only be passed upon by a man who is able to tell from experience how far it is safe to go and save the patient's life. Radical operation is undoubtedly best accomplished by the abdominal method. I make it a rule to first thoroughly prepare the vagina, making a dissection of the mucosa for some distance from the cervix; then dissecting around the cervix for 1-2 or 3-4 of an inch, and getting the mucous membrane of the vagina so that it can be sutured over a small piece of gauze, when the cancer is in the early stages. Then I stop the vaginal work, change gloves, and proceed to do an abdominal section, going in through the cavity and doing a Wertheim operation.

This operation consists in tying the vessels clear out to the brim of the pelvis. Some operators put catheters into the ureters before beginning the dissection. I recall one case where, in order to dissect a gland off of the left side, I had to completely expose the ureter for a distance of perhaps four inches. Later the damage to the ureter resulted in the formation of an ureteral fistula, which remained for a month or six weeks. Under cautery in the vagina, and the use of ligature paste, the fistula closed. This was a case which had apparently gone beyond the possibility of a cure, and yet the patient is still living.

What can we do for those patients who come to us after the possibility of a cure by radical operation has passed? A very large percentage of the cases that I have seen have come to the operating table too late for any radical work. What are we going to do for these patients? With a large cauliflower growth on the cervix, little can be accomplished. In cancer of the body, there is much more hope for permanent relief. Cancer of the cervix can be treated even after the time for radical operation has passed, life prolonged for from twelve to eighteen months, and for a time, at least, the patient will be free from discomfort.

As the essayist has stated, the majority of cases die within twelve months after the condition is discovered, but by palliative treatment, properly carried out, much may be done for these patients.

I believe that it is rarely necessary to tie off the blood supply of the uterus before doing an actual cautery operation. With a large, sharp curette the necrotic tissue can be rapidly scraped out. Then, the walls of the vagina being protected well by retractors, and by wet gauze, the cautery is applied very freely to the uterine structures, being careful to avoid damaging the bladder and rectum, or any of the surrounding tissues. This tissue is packed with bicarbonate of sodium to relieve any pain, and later we may use the other remedies mentioned by the essayist—and there are few that are better than eldorado of zinc, applied as the doctor has described. Gellhorn has in recent years advised the use of acetone in these cases. Do not stop with one cauterization, but repeat it two or three times if recurrence takes place. In one or two instances, recovery has taken place under this treatment. It should be repeated again and again, just as long as there is any tissue to work with between the vagina, bladder and rectum.

Bernard J. O'Connor: What is the immediate mortality of the Wertheim operation?

J. Garland Sherrill: I think it is not more than 4 or 5 per cent. In cases properly selected, which are not too far gone, it should not be more than this in the hands of a skilled operator. No man should undertake this operation who has not done a large number of abdominal sections; otherwise, he will be sorry.

I wish to utter a word of caution in regard to any operation for the removal of carcinoma of the uterus; that is, we should be very careful to protect all of the structures with which the uterine body or uterine surface might come in contact. I recall one case in which I was not absolutely certain that the woman had a carcinoma. She had a nodule about the size of a pea on the cervix which bled at a touch, and I remarked that, if this was a case of cancer of the cervix, it certainly was an early diagnosis, and I hoped for a very brilliant result. Using every precaution, I made the vaginal section in the usual way, covering every surface so that it would not come in contact with the growth. Then I cleaned up carefully, opened the abdomen, and removed the cervix, employing, as I thought, every precaution to prevent contact. At the end of six months this woman had a recurrence in the abdominal wall, without any evidence of connection between the wall and the deeper tissues. She also had a recurrence in the broad ligament. Therefore, I believe that transplantation can and does take place, and deem it of the utmost importance to thoroughly protect the vaginal and abdominal wounds in removing the cervix.

C. H. Harris: I have a case of carcinoma of the cervix under observation at the present time,

which is inoperable. The mass has pushed the bladder up and the rectum down. The use of acetone was begun about a year ago. The other day we put in a speculum and simply saturated everything with acetone. It controls the hemorrhage and seems to render the patient more comfortable for a while. I cannot keep up the applications every other day on account of the pain it causes. At the present time I am using acetone once a week, and I believe it is one of the best palliative measures that we have in cancer of the cervix.

Bernard J. O'Connor: I wish to emphasize what the essayist and Dr. Sherrill have said in regard to early diagnosis, which is a most important point in connection with cancer of the uterus. It has been shown that the old idea, that cachexia, loss of weight, and pain are symptoms of cancer, is a fallacy; that these are symptoms of approaching death rather than of the tumor itself. We must be guided by hemorrhage, and the results of repeated examinations.

The points that have been brought out in connection with the pathology of cancer are very important. It is unquestionably a very difficult matter, even for an expert pathologist, to say when cancer is absent. Of course, when we find cancerous tissue, we can say positively that the patient has a cancer, but occasionally even the best of us will not happen to strike a field or section in which the cancerous growth has manifested itself. Therefore, the surgeon should not rely absolutely upon the report of the pathologist for the diagnosis.

In my opinion, no one but a skilled surgeon should attempt the Wertheim operation. If I am not mistaken, the primary mortality from this operation is much higher than the figures given by Dr. Sherrill in his discussion.

Montgomery, who is really the father of the method of treating carcinoma of the cervix with actual cautery, holds that quite a large percentage of cases—possibly as many as 50 per cent.—are cured by this means; or, at least, live from fifteen to eighteen years afterwards. He cauterizes the uterus very thoroughly, and it is really almost equivalent to an hysterectomy.

H. J. Farbach: I think Dr. O'Connor brought out a very important point when he said that we cannot absolutely rely upon laboratory methods for the diagnosis of cancer of the uterus; the tail should not wag the dog.

I was in hope that the essayist and Dr. Sherrill, in his discussion, would say something about the etiology of cancer. That is the paramount question to-day, and I believe that most men are coming to believe more and more in the infectious nature of cancer; that it appears in devitalized tissue of low resistance; that it appears in parts that are exposed to infection.

In regard to the treatment of inoperable cases, the Italian school has, in the past few years, tried out the autolysate treatment, and

one man, in a report of eighteen cases treated by this method, says that ten of them are still living after six years, with no evidence of the disease other than slight induration.

Their theory is based upon the fact that embryonic tissues seem to be immune to carcinomatous attack. A fetus, anywhere from the third to the eighth month, is obtained under sterile conditions, placed in a sterile vessel and covered with paraffine and kept at a temperature of from 98 to 100 degrees F. until complete autolyzed. This material is then injected directly into the cancerous growth (after having removed as much of the cancerous tissue as possible) in quantities of from one to ten c.c. The injection sets up a necrosis, and the necrotic tissue is removed from time to time and the injection repeated.

Harry J. Phillips, (Closing): I wish to thank the gentlemen for their discussion. In selecting this subject I thought it would be of interest to all of us—the internist, the pathologist, the gynecologist and the surgeon, and that it would be liberally discussed and freely criticised.

As to Dr. Sherrill's remarks in regard to differentiating between carcinoma and a syphilitic ulcer of the uterus, I would say that, in cases where we suspect syphilis, the patient should be put upon specific treatment, under which it will promptly clear up if the trouble is syphilitic.

In the case of retained secundine, mentioned by Dr. Sherrill, this might have brought about a condition of deciduoma maligna, or cancer within the uterus, and his patient was fortunate in not having developed such a condition.

Another symptom that I have noticed and have been careful to look for, is a profuse leucorrhoeal discharge in women who have been subject to leucorrhoeal discharge, and any leucorrhoeal discharge in women who have not previously been troubled with such a condition. This will bear close watching, because it is sometimes one of the earliest symptoms of malignant disease of the uterus.

In the past 18 or 19 years I have had some fifteen cases of carcinoma of the uterus of various types. Several of these were operated upon in time. One of them is living and apparently in good health six years after the operation; another, four years after the operation. Two, who were operated upon nearly three years ago have shown no evidence of recurrence.

I do not think we can depend upon digital examination for our diagnosis. The average diagnostician may think that he can put his fingers into a woman's vagina and tell whether or not she has malignant disease, but I do not believe any one can be positive about it without a specular examination. We can see things that we cannot feel, and I make a practice of using a speculum in addition to my fingers.

At the present time I have under observation three women, all of whom are subject to considerable bleeding at the menstrual period, and some

oozing between the periods. The great trouble is to convince these patients that they have malignant disease. As Dr. Sherrill has said, they do not like to entertain the idea that they have what they consider an incurable disease, and the result is that the majority of them do not come to the doctor until the disease has begun to undermine their constitution, and oftentimes when they do come, they have passed the stage when operative procedure will do any good.

INDICATIONS FOR OPERATIONS ON THE BLOOD VESSELS.

By JOHN W. PRICE, Jr., Louisville.

The first operations which were performed on the blood vessels were, venesection and suture of the arteries. The latter was successfully performed in 1759.

Anastomosis of a vein to a vein was first attempted on a dog, in 1877, by Eck. It was a successful anastomosis between the vena cava and portal vein.

In 1892 Vignolo successfully performed an end to end anastomosis of artery and vein.

In 1898 Glauek was successful in transplanting a piece of the carotid between the two cut ends of the jugular vein. These are the only two successful cases of anastomosis of the blood vessel which I have been able to find before the development of the wonderful technique of Carrel which was reported about 1902. Carrel's first reported attempt to do an arteriovenous anastomosis resulted in death of the dog, two days after the operation from hemorrhage.

San Martín y Satrustegui, in 1902, attempted a jugular-carotid anastomosis on three goats, without success.

In 1905 Garrel and Guthrie reported a series of 13 arteriovenous anastomoses in animals with only a single failure.

Carrel in a very recent article on the technique of vascular anastomosis describes his methods in detail as he applies them to-day. He describes arterial anastomosis (a) end-to-end (b) termino-lateral; venous anastomosis; and arteriovenous anastomosis (a) end-to-end (b) termino-lateral.

I have applied the Carrel technique on dogs and have found it very difficult to manage the stay-sutures and make a good union, and so I have had made this little device which you may see to-night.

In order to determine the indications for operations on the blood vessels it seems that we may find it helpful to consider the cases in which these operations have been performed and note the results and then draw our conclusions. It may be possible then to discover other conditions which may be benefited by vascular operations.

First, vascular operation—venesection. Ortuier has found venesection to give relief in the following conditions:

Broken compensation, especially when there is threatened pulmonary edema, venous cerebral hyperemia and threatened heart-paralysis. The reduction of the blood mass and the stimulation of the circulation often make the dilated heart once more perform its function. In case of threatened heart paralysis venesection may be effective when stimulants prove powerless and death is imminent, the patient being decidedly cyanotic with blue and cold extremities and a thread-like pulse.

Second indication for venesection is in cases of threatened cerebral hemorrhage and even when the cerebral hemorrhage is actually present, as the result of arteriosclerosis or nephritis.

The third is in plethora, especially when symptoms of active hyperemia and congestion are conspicuous (face, cheek and ears intensely red, almost purple, and the calibre of the peripheral vessels, especially of the face, enlarged).

In croupous pneumonia it is indicated when the patient is strong with a full and almost bounding pulse, deep red or slightly cyanotic face, dyspnoea and pain, and abundant bloody sputum. And when there is a marked accentuation of the second pulmonary tone, and often a relatively acute dilatation of the heart.

Another indication for venesection is pulmonary edema, either acute inflammatory edema, or edema in nephritis or in heart lesions.

Kidney disease is the next indication. It is useful in cases of acute uremia in chronic Bright's disease with good heart action or cerebral hemorrhage, either threatened or actually present, and where severe renal symptoms are present in all kinds of severe infection, such as typhoid and pneumonia. Sænzé warmly advocated phlebotomy in acute nephritis with acute uræmic symptoms, particularly convulsions. Dieulafoy advises it in relatively slight uræmia because it lessens the chances of the acute nephritis becoming chronic.

Chlorosis is another indication for venesection according to Dyes, Wilhelm, Scherbert. Virordt discovered that slight losses of blood increase the number of red corpuscles; Lesser discovered that they increase the hæmoglobin contents. Neusser, Schipero-weitsch assumed that the loss of blood stimulates the formation of new blood.

Venesection is also indicated in poisoning by illuminating gas and carbon monoxid; the loss of blood is to be followed by immediate infusion of salt solution or transfusion.

Venesection is also indicated in sun stroke and gives good result.

Second. Vascular operation transfusion.

The second vascular operation of importance is the direct transfusion of blood from one patient to another. The greatest stimulus to this work has been due to the efforts of Crile. The methods of doing this operation have been the end-to-end suture described by Carrel and approximation by apparatus devised by Crile, Elsberg, Soresi and Levin, and vessel inter-locking by end or lateral implantation by Hartwell, and an inter-position of a foreign body-link by Brewer and Frank. Bernheim has made a modification of Crile's cannula which is easy of application but we prefer end-to-end suture.

In 1907 Crile reported his method of doing the transfusion and stated that he had used it in 32 clinical cases but did not state what the cases were.

In 1908 Ottenberg reported two cases of transfusion for secondary anemia. The immediate results were satisfactory but both cases terminated fatally from a continuation of the original diseases.

In 1908 F. O. Allen performed transfusion in a case of leucophilia. The patient was a boy 12 years old who had bled four days previous to admission to the Hospital. He was comatose, very pale, skin flabby and waxy, and there was a thin stream of blood oozing from the mouth. The oozing continued for two days and then transfusion was done. During the operation the mental condition became bright enough for him to complain of pain and to call the doctor bad names. Allen states the amount of blood passed was not definitely known on account of difficulty in making anastomosis, but two days later the haemoglobin had risen from 5 to 14 per cent and one month later the haemoglobin was 68 per cent and the red blood cells 3,938,000. The relief was temporary, as the boy was admitted to the hospital six months later with a haemoglobin percentage of 15 per cent.

In 1909 Wm. A. Downes reports doing a transfusion for the purpose of removing a patient from a category of a doubtful surgical risk to that of one of reasonable certainty.

The patient was a child two years and two months old. He presented a lump in the left side of the abdomen. Blood examination showed haemoglobin 45 per cent.; red blood corpuscles, 4,960,000; white blood corpuscles, 12,000. Transfusion was continued for 40 minutes and the haemoglobin arose to 80 per cent. The next day it had fallen to 65 or 70 per cent. A nephrectomy was then done and there was no shock after the operation. The patient made a complete recovery.

Direct transfusion has been used in the fol-

lowing ten cases reported by Pool and McClure:

First. Illuminating gas poisoning. Result marked improvement—patient lived for a week and died of hypostatic pneumonia. They say, "In regard to the treatment of illuminating gas poisoning by infusion the case shows that at least astonishing temporary effects may follow transfusion. The patient was resuscitated from a moribund condition, the respiration and heart action quickly became normal and remained so for several days. The red cells from the donor must become carriers of oxygen. In this respect the clinical findings were similar to those obtained by Crile in experiments on dogs. If the degree of poisoning is such as to cause cerebral softening, permanent benefit cannot be expected."

Second. Secondary anemia; haemophilia. Result—discharged cured 24 days after the transfusion. Three months later patient's condition and color were excellent.

Third. Secondary anemia carcinoma of the stomach. Blood examined before transfusion showed haemoglobin 31 per cent.; red blood cells 2,210,000. After transfusion haemoglobin 44 per cent.; red blood cells 4,600,000; patient was discharged six days later much improved. Seven months later patient died at home. No autopsy.

Fourth. Secondary anemia, biliary fistula, multiple hemorrhages and senility. Patient 80 years old. Before transfusion blood examination showed haemoglobin 18 per cent.; red blood cells 1,856,000; after transfusion haemoglobin was 40 per cent.; red blood cells 2,380,000. Two days after transfusion patient had a profuse rectal hemorrhage and died soon afterwards. No autopsy.

Fifth. Septic endocarditis; septicemia.

Ten minutes after the beginning of the transfusion the patient became restless and irrational, cyanosed, pulse rapid and irregular, and respiration rapid and almost stertorous. It seemed extremely dangerous to continue so the transfusion was immediately stopped. Patient died on the 19th day after the transfusion and after an illness of almost eight months. No autopsy.

Sixth. Secondary anemia following puerperal septicemia.

The blood examination showed haemoglobin 34 per cent.; red blood cells 1,284,000; white blood cells 8,500. The patient's general condition was so poor that a transfusion was done in the hope of making her better able to stand an operation. The patient was transfused and the blood examination showed haemoglobin 54 per cent.; red blood cells 3,608,000; patient continued to improve for six days, haemoglobin becoming as high as 62 per cent, and the red blood cells 4,600,000; during the

next three weeks there was a steady fall in the haemoglobin per cent. and also the number of red cells but no operation was performed and patient improved. At the time of her discharge, about two months later, her condition was so good that she was able to return at once to her household duties.

Seventh. This patient, 43 years old, was suffering with profound anemia. On admission she was almost moribund. Blood examination showed 600,000 blood cells and 16 per cent. haemoglobin. Transfusion was immediately done with slight improvement. The next day a second transfusion was made with marked improvement. The third transfusion was ten days later because the patient's blood and general condition had begun to show a marked change for the worse. The result was, considerable and prolonged improvement. The patient was discharged from the hospital five months later and blood examination showed haemoglobin 70 per cent.; red blood cells 3,150,000. The cause of the anemia in this case was not definitely determined. It is interesting to note that after the third transfusion the patient developed pneumonia in the right lower base and later pleurisy with effusion on the left side. The effusion was tapped ten times, and as much as 20 to 30 ounces of blood-tinged fluid was removed at one tapping.

Eighth. Papilloma of the bladder, excision followed by secondary anemia. Five and one-half hours after the operation the patient was comatose and practically moribund. Haemoglobin 34 per cent.; red blood cells 1,500,000; pulse 156 per minute. Transfusion was performed and the blood was allowed to flow 40 minutes. The author reports that the patient's general condition underwent a marked improvement during the transfusion. The transfusion would have been continued but the donor began to show the effect of the loss of blood. Examination of the blood two hours after the transfusion showed haemoglobin 46 per cent.; pulse 140. The patient continued to steadily improve and was discharged in about six weeks. Examination of blood showed red blood cells 4,112,000; haemoglobin 75 per cent.

Ninth. Infected fibroid of the uterus; suppurative metritis; multiple metastatic abscess of thigh; pyaemia. On admission of patient temperature was 102 degrees; pulse 124; respirations 28. Haemoglobin 30 per cent.; leucocytosis 40,000. General condition was so poor that it was thought she could not stand an operation. She was transfused eight days after admission and the haemoglobin arose gradually from 18 per cent. to 40 per cent. The afternoon after the transfusion a dull urethral discharge was done and some tissue and considerable pus were brought away. For a few

days the patient's condition was excellent but during the following six days the haemoglobin dropped to 18 per cent. From this time on, however, the patient began to gradually gain ground and was discharged in about three months. A month later she was seen and was apparently in perfect health. She had gained weight even to excess and her color was that of a robust and healthy woman.

Tenth. Secondary anemia following hemorrhage from a circooid aneurysm of the face. Before the transfusion haemoglobin fluctuated between 19 and 40 per cent. In this case the transfusion was not successful because the donor was highly neurotic.

Hemophilia. This case is reported by Dr. Chas. Goodman. Patient, boy two and one-half years of age. On admission it was found that the patient had several wounds about the mouth and face which had been sustained in a fall from a fire-escape. All of the wounds were oozing. The previous history was that the child had shown a tendency to develop black and blue spots on the body upon the slightest injury and that they would last from six to eight weeks. Ritual circumcision performed on the 8th day after birth was followed by continued bleeding for several days. When a year and a half old the child cut its finger and the wound bled for two weeks. Eight months before admission the child fell and cut its gums and this wound continued to ooze for several months. Blood examination on admission showed haemoglobin 12 per cent.; and red blood cells less than a million. Transfusion was immediately done and after ten minutes there was a slight change in the color of the lips; there was only an occasional flutter of the child's pulse. The transfusion was continued 28 minutes. At the end of that time the pulse was regular, of good quality, and 140 in frequency. The ears, cheeks and lips, previously waxy, had now become pink. The haemoglobin showed 70 per cent. An hour and a half after the transfusion there was a sudden rise in the temperature to 106.4 degrees and pulse 190. This gradually subsided without treatment and 12 hours later temperature was 99 degrees and pulse 140. The child made an uninterrupted recovery and was discharged from the hospital at the end of eighteen days, blood examination showing haemoglobin 60 per cent.; red blood cells 3,400,000. After spending three weeks at the seashore, examination showed 5,000,000 blood cells and 80 per cent. haemoglobin. Recently the child suffered from an infected scalp wound with cellulitis which required extensive incisions. The wound healed gradually without any tendency to hemorrhage.

Third vascular operation. Grafting, or

transplantation of a segment of vein or artery between the cut end of two vessels.

In 1905 Carrel advocated the use of venous grafting in the treatment of aneurysms and of certain traumatic lesions of arteries. Carrel had shown by experiments in 1902 and 1903 that arteriovenous anastomosis made with a proper technique would remain normal and that a vein transplanted on an artery reacts against the increase of the pressure by thickening of its wall. He demonstrated that veins could be safely grafted on arteries. He further showed that thrombosis, observed by previous experimenters, was not due to a biological, but merely to a surgical cause, and that, with a proper technique, positive results could be easily obtained.

In 1907 Watts performed, several times, a graft of a segment of a jugular vein on the carotid artery. Stich, Fiches and V. Schmeiden, also obtained positive results experimentally. Goyanes in 1906 performed a transplantation of the popliteal vein on the popliteal artery after the excision of an aneurysm, and his patient recovered.

Lexer in 1907, in a case of axillary aneurysm, performed a graft of a segment of saphenous vein. His patient was in poor general condition and died after a short time.

Bernheim in January, 1910, in the clinic of Dr. W. S. Halsted transplanted five inches of the left saphenous vein between the cut ends of the right popliteal artery and vein. Dr. Halsted had previously removed a sarcoma originating in the popliteal nerve and involving the popliteal artery and vein, so that, after the operation, there was a defect of four inches between the cut ends of the vessel. The leg continued to have a good circulation and the patient was able to walk when he left the hospital. He died eighteen months after the operation.

In a case of threatened gangrene in January, 1911, Bernheim transplanted one inch of the femoral vein between the femoral artery and the femoral vein. The section of vein which was used for transplanting was removed from the proximal end of the vein. This was necessary because he was unable to do an end-to-end anastomosis between the artery and vein because he had made the mistake of cutting the vein and artery at the same level and had not allowed for the usual retraction following the section of any vessel.

Fourth vascular operation. Arterial end-to-end anastomosis. Experimentally the first successful end-to-end anastomosis was made in 1894 by Robert Abbe, of New York. He tied each end of the divided abdominal aorta of a cat with a fine silk thread. Quierole and Msini in 1905 introduced an appliance consisting of a tube of glass through which one end of the artery was threaded and enuff

ed back and then invaginated into the other end and held in place by a ligature. Nitze in 1897 demonstrated a similar aid made of ivory. Payr in 1900 described two appliances made of an absorbable material—magnesium. For a short time these were quite popular and from one form of these the Crile cannula has been developed. Murphy, of Chicago, in 1897 described a successful method of anastomosis by invagination. Jabonlay and Brian and Slomoni, independent of each other, devised a similar technique. The method of Jabonlay and Brian was improved by their former pupil Carrel into the method which is now most generally used.

The advantage of being trained to apply this technique was successfully demonstrated by Ehrenfried and Boothby in the following case: The patient had been stabbed in the groin and it was found upon examination that the femoral artery had been completely severed. An end-to-end anastomosis was immediately performed by the Carrel method. The recovery was rapid and uneventful despite the weakness of the patient from loss of blood. The patient was discharged at the end of two weeks.

Fifth vascular operation. Arteriovenous anastomosis. This form of operation was first attempted in 1881 by Francois Franck. It was unsuccessful.

The first clinical case was that of San Martin y Satrustegui who, in 1902, attempted an arteriovenous anastomosis in man as a means of treating gangrene of the extremities. The immediate result was satisfactory but extension of gangrene called for amputation on the sixth day after the anastomosis had been made.

The second case reported by the same author was also unsuccessful and amputation had to be performed. Jabonlay operated on the third case. He made a lateral union of the vessels. The immediate result appeared hopeful but on the 28th day amputation at the thigh was done.

The first successful operation in man was in 1907. Doberauer reports a case of a woman with embolism of the humeral artery with threatened gangrene. The artery was twice opened and the clot removed. A thrombus formed a third time and gangrene progressed. The axillary artery and vein were anastomosed and active pulsations continued for eight days. Nothing is reported after that.

The second successful case was reported by Ballance in 1908. The woman was a patient 75 years old with senile gangrene of the toes of the right foot which was beginning to extend to the dorsum of the foot. Anastomosis was made between the femoral artery and vein, after which the discoloration of two

of the toes disappeared and gangrene made no progress in the following months, and demarcation in the already affected toes occurred. Death occurred from gangrene of the intestines five months after the operation.

The third successful case was reported by Wieting in 1908. The patient was a man 40 years old with threatened gangrene of the left leg due to arteriosclerosis (amputation of the right leg, first below and then above the knee, had been performed on account of the gangrene). A lateral implantation of the femoral artery into the vein was performed at the apex of Scarpa's triangle. After the operation the toes and foot became warm and pink and the pain disappeared. Two months after the operation there was no signs of the gangrene. The operation was a complete success.

Three operations have been performed on account of traumatic gangrene.

Beck reports a case with compound comminuted fracture of the leg below the knee. The anterior tibular artery was exposed and an anastomosis was made between the artery and one of the large veins. The crushed leg acquired a brighter color and more warmth and remained so without further signs of gangrene for 48 hours and then the man died of pneumonia.

Lubert and Fialle report the case in 1909 of a man who had a bullet wound penetrating the femoral artery, the popliteal artery and vein. An end-to-end anastomosis of the popliteal artery and vein was made but was unsuccessful and the thigh had to be amputated. This seems to be one case in which a proper technique would undoubtedly have saved the patient's leg.

Torrance in 1907 reports the case of a man with a fracture of the right leg and rupture of the posterior tibial artery. The anterior tibial artery was transplanted in the saphenous vein. Pulsations continued for a day and then stopped. Four months later the leg was amputated on account of disease of the bone.

Orphan reports a case in 1907 with suppurating gangrene of the small toe. Anastomosis between the popliteal artery and vein was performed which was unsuccessful, the leg had to be amputated.

On account of presenile endarteritis arteriovenous anastomosis has been performed three times. Lillienthal reports a case of a man, age 20, with gangrene of the feet. The operation was unsuccessful. Patient was very much shocked and died 31 hours later without showing any signs of improvement.

Beck in 1910 reports a case of a young colored man with gangrene of both feet extending several inches above the ankle. Cause unknown. An end-to-end anastomosis of the femoral artery and vein was done by Carrel's

method. The patient did not improve and a double amputation was performed through the thighs. The vessels in both legs showed endarteritis.

Von Schmiedon in 1910 attempted an anastomosis for presenile gangrene in a patient 29 years old. The anastomosis could not be done because the artery was found obliterated.

Halstead and Vaughan have recently reported two cases of arteriovenous anastomosis in the treatment of gangrene of the extremities. Both cases were unsuccessful and Halstead and Vaughan close their article with the statement that since the writing of the paper they have had another case of arteriosclerotic gangrene for which they performed amputation rather than anastomosis.

Bertram M. Bernheim in a recent number of the *Annals of Surgery* (February, 1912) reports several cases of arteriovenous anastomosis which were successful. In the case of threatened gangrene, in which he had transplanted a piece of vein between an artery and a vein in one leg with complete success, it was found, about four months later, that the other leg was affected, so a lateral anastomosis was made between the femoral artery and vein. The result was perfectly satisfactory. At the time of his article (eleven months after the first operation and seven months after the second operation) he says the left leg has a circulation apparently as good as normal and gives no pain. The right leg has also apparently normal circulation.

Another case was operated upon for beginning moist gangrene. An end-to-end anastomosis between the femoral artery and vein in Scarpa's triangle was made. Three days later the leg was amputated at the thigh. Anastomosis was found to be working beautifully but was badly selected and the blood vessel operation ought never to have been done because, apparently, the gangrenous process had progressed so far that the nerve had become involved as well as the small vessels; thus making an attempt at saving the limb utterly hopeless.

His next case was for beginning gangrene and an extensive ulcer of the right foot which had been present for two and a half months. An end-to-end anastomosis was made between the femoral artery and vein in Scarpa's triangle and the vessel was found to be two-thirds occluded by an old thrombus. The result of the operation was a complete success.

Another case was one of threatened gangrene with a thrombus in the axillary artery. He went above the site of the thrombus and made an end-to-end anastomosis between the artery and vein at the lower border of the axilla. I consider this operation successful because he states that the patient left the hospital in very good condition, so that if blood

had not reached the hand gangrene must have followed. Bernheim says that no pulse could be felt below the site of the anastomosis and the success of the operation, from an operative standpoint, is in doubt.

I have found in the literature about 69 cases of arteriovenous anastomosis and agree with Bernheim and others that in the past the cases have not been selected with sufficient care. It is very evident that if the gangrenous area is very extensive it is useless to do an anastomosis in these cases, so the operation must be performed at the very earliest indication of a possibility of the extremity becoming gangrenous if we hope to have success.

Sixth vascular operation—Venovenous anastomosis. At the last German Surgical Congress Schaack and Hesse reported 23 cases of saphenofemoral anastomosis.

In 1906 Delbet advised a new operative procedure for a certain group of varices, which, by means of transplantation of the venasaphena into the venafemorals at a new place by vascular suture, produces normal physiological conditions for the venous blood circulation.

Schaack and Hesse to justify the performing of their operation examined 100 preparations of the femoral and saphenous veins in order to be sure of the location of the valves in each. It was found that the femoral veins always had at least one pair of valves below the mouth of a saphenous vein and, in 73 per cent., two or three, or even more, pairs of valves were present.

Prof. Delbet informed the authors by letter that 25 cases in his clinic have been operated on successfully. Of the 23 cases reported by Schaack and Hesse only one was unsuccessful. At the time of the operation 16 of the patients had ulcers of the leg. In every case the ulcers which had hitherto defied every treatment healed. They could also ascertain in all their cases a diminution and even repeatedly a complete disappearance of the varices. They state that the operation is indicated: (1st) for strong and otherwise healthy persons; (2nd) only in case of valvular insufficiency of the saphena; (3rd) the varices must be situated within the range of the vein saphena magna; (4th) their trunk must allow of free passage. Their report also gives the contraindications for the operations.

The conclusions which may be drawn from the resume of the cases which have been reported up to date might be classified as follows:

1. *Venesection is indicated:*

1. Broken compensation,
2. Threatened cerebral hemorrhage,
3. True plethora,
4. Croupous pneumonia,

5. Pulmonary edema,
6. Kidney diseases—acute uremia, etc.,
7. Chlorosis,
8. Poisoning—gas,
9. Sun stroke.

2. *Transfusion is indicated:*

1. Secondary anemia,
2. Pyemia,
3. Septicemia,
4. As a preliminary in an anemic patient who must undergo a severe operation.
5. Hemophilia,
6. Illuminating gas poisoning.

3. *Venous or Arterial Grafting is Indicated:*

1. After excision of aneurysm,
2. After excision of malignant tumor involving a large vessel,
3. If ends of a severed artery cannot be approximated and anastomosed,
4. Traumatic rupture of artery.

4. *Arterial End-to-end Anastomosis is Indicated:*

1. If ends of severed artery can be anastomosed.

5. *Arteriovenous Anastomosis is Indicated:*

1. Threatened gangrene of an extremity,
2. Embolism of an artery,
3. Traumatic rupture of artery—if grafting cannot be done,
4. Presenile gangrene—early,
5. Thrombosis of an artery.

6. *Venovenous Anastomosis is Indicated:*

1. Varices—due to insufficiency of the valves of the saphenous vein.

7. *Excision and Ligation of Veins is Indicated:*

1. Varices (whose extent is limited).

I am indebted to the following articles for many of the references in my paper:

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4. Ehrenfried and Boothby, *Annals of Surg.*, Vol. 54, No. 4, 1911.
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6. Carrel, *Annals of Surg.*, Vol. 52, No. 4, 1910.
7. Muller, *Annals of Surg.*, Vol. 51, No. 2, 1910.
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11. Carrell and Guthrie, *Annals Surg.*, Vol. 43, 1906.

12. Hubbard, *Annals Surg.*, Oct. 1906, 1908.
13. Lillenthal, *Ibid.*, Jan., 1907.
14. Crile, *Annals Surg.*, Vol. 46, 1907.
15. Ottenburg, *Annals Surg.*, p. 486, 1908.
16. Allen, *Annals Surg.*, p. 625, 1908.
17. Downes, *Annals Surg.*, Vol. 49, 1909.
18. Bernheim and Stone, *Annals Surg.*, Vol. 54, No. 4, 1911.
19. Halstead and Vaughan, *Surg., Gyn. and Obst.*, Vol. 14, No. 1, 1912.
20. Doberauer, *Ibid.*, Abstract from *Soc. de Med. AR., de Bakemc.*, 1907.
21. V. Cehmeiden, *Ibid.*, Abstract from *Ber. Klin., Woch.*, 1910.
22. Beck, *Ibid.*.
23. Wieting, *Ibid.*, Abstract from *Deut. Med.*, 1910.
24. Orban, *Ibid.*, March, 1908, No. 39.
25. Wieting, *Deut. Zeit. fur Chir., Bd.*, 110, 1911.
26. Orban, *Ibid.*.
27. Glueh, Vignola, San Martin y Satrustegui are mentioned by many authors.
28. Ortnier, Ed. by Potter, *Treat. Int. Diseases.*

DISCUSSION.

W. C. Dugan: While I have done no work along this line, I have been very much interested in the subject. I realize, as we all do, that we are just at the beginning of some great work in vascular surgery. I think the instrument exhibited by the essayist will prove to be of great assistance in performing operations along this line.

I am glad to learn that pre-senile gangrene is not now so hopeless a condition as we have always considered it to be. I recently exhibited a case to this society in which I had done an amputation for pre-senile gangrene. This patient had the prodromal symptoms for a week, and had they been properly interpreted and anastomosis made, it is possible that the leg could have been saved. Of course, in senile gangrene, where the vascular changes are far advanced, we cannot hope for such good results.

I have enjoyed the paper very much, and I am glad that the doctor brought up this subject.

Jno. R. Wathen: I think the society is to be congratulated upon hearing such a paper as this. It is a pity that we do not have more papers of the kind.

Dr. Price has probably done more of this work than any one in the city. When I first began to advocate transfusion, he sent me a set of instruments, which I exhibited to this society and subsequently loaned to various members to use, and they have all gotten fairly good results. Personally, I have been disappointed in the results obtained, but I believe there is a great future for it. In the hands of such wonderfully skilled men as Drs. Carrell and Guthrie, of St. Louis, some very brilliant results have been obtained by

taking a kidney from one cat and transferring it to another. The transplanted kidney would functionate for a while, but later on it would undergo certain fibrous changes. On a number of occasions, both in this country and in Europe, the leg of one animal has been successfully anastomosed upon the leg of another animal. If I am not mistaken, I recently saw a picture in one of the German Journals, showing a dog resembling a pointer but having one leg like that of a setter which had been transferred from another dog.

J. Rowan Morrison: Just a few words in connection with the first part of the paper. I believe there are many instances where a great deal of benefit can be obtained by proper bleeding at the right time. I have tried it in a number of cases of failing compensation, as mentioned by the essayist, where the right heart is overburdened and cannot do the work. Under such circumstances, the withdrawal of 16 to 24 ounces of blood will relieve the circulation, make it much more brisk, and bring about a condition that we could not obtain by the administration of medicines in so short a time. In cases of uremia, the effects of thorough bleeding are sometimes remarkable. I can recall three patients with slight kidney disease, who were not really uremic but were very drowsy from extreme plethora, and in all of these cases bleeding gave brilliant results. Therefore, I am heartily in favor of bleeding if it is done at the right time. Before the patient has gone too far, and I am sure that in many instances we can get results from it that could not be obtained in any other way.

John W. Price, (Closing): I wish to thank the gentlemen for their kind reception of the paper.

Blood vessel surgery is often very difficult. Men who write on this subject all say that practice, and more practice, and then more practice is the only way to attain success in this line of surgery. Furthermore, it seems that a degree of asepsis that would suffice for abdominal surgery is not at all sufficient in this work; that very often infection will develop of which there is no evidence macroscopically, but which will result in the formation of a thrombus. The three chief causes of failure in doing blood vessel anastomosis are, (1) thrombus; (2) constriction, or narrowing of the lumen of the vessels at the site of anastomosis, and (3) leakage. Nowadays few men have any difficulty from leakage; thrombus is responsible for most of the failures.

The cases reported by Schenk and Hesse are perfectly remarkable. In 48 cases of persistent chronic leg ulcer with varicose veins, they successfully did venovenous anastomosis without any bad results except in one case, in which blood poisoning developed, which they attributed to faulty asepsis.

The work that Bernheim has done is, I think, going to give surgery in beginning gangrene a

very strong push forward. The results in cases in which he transplanted a vein to the popliteal artery were, I think, marvelous.

I wish to apologize for having taken up so much time in reporting cases of other men; I am sorry that I have not more cases of my own to report, but I considered that the best way to deal with this subject was to make a full report of all the work that has been done, assuming that many of you, like myself, have not been familiar with what has been done along this line.

WHOOPIING COUGH.

(PERTUSSIS.)

By H. L. RAPP, Louisville.

This subject is so old and well known, that I have tried to make this paper as short as possible. It does not deserve the title of an essay. The only thing that I might suggest as new, may be something in the way of a prophylactic treatment. In writing this paper I have referred to such works as Roth, Holt, Tyson, Hare, Sajous, and others. The older books give about the same information as the newer ones, with the exception that the older works, in speaking of the cause of the disease, say that it is *probably* caused by some micro-organism, while the newer ones, namely, Sajous, describe the character and nature of the germ, likely to be the cause of whooping cough.

Whooping cough is an infectious and contagious disease, characterized by spells of coughing, accompanied by a long drawn inspiration, producing the peculiar sound or whoop.

It is a question, as to whether this disease was known to the Greeks. Hippocrates and Galen, in their writings speak of a disease similar to whooping cough. It was known as a distinct disease in the sixteenth century.

ETIOLOGY.

It is caused by specific bacteria. Ritter described, as being likely the cause, *diplococcus tussis convulsivae*. Arnhelm attributed it to a bacillus resembling that of influenza. But that minute bacteria recently discovered by Bordet and Gangon, French bacteriologists, seem likely to be the real cause of whooping cough. Owing to the irritating character of its toxin, it causes violent local irritation and reflex cough. It proves extremely irritating when applied locally. When injected into the eye of a dog, it caused the cornea to become white and opaque. While it affects persons of all ages, children are most susceptible, perhaps because of most adults having had the disease during childhood, though we often find adults who have never had the disease, and still seem to be immune. One attack usually

confers life-time immunity, though some books speak of relapses. It is more serious in older persons, and in very young infants. The epidemics are more common in spring and winter and often precede and follow measles or scarlet fever.

There is no morbid anatomy peculiar to whooping cough. The peculiar states found after death, are due to complications, bronchitis, pneumonia, emphysema, etc.

SYMPTOMS.

Whooping cough has a period of incubation of from seven to ten days. The cough in the beginning is in no way peculiar, like an ordinary bronchitis with slight fever. This may go on for about two weeks, and without history of contagion, whooping cough may not be suspected. After this time the cough gradually gets worse, especially at night and occurring in paroxysms or spells, a number of short convulsion coughs, followed by a quick deep inspiration, producing the peculiar sound or whoop, then more cough, this being repeated a number of times, until finally a small amount of thick mucus is expectorated or thrown out by vomiting, which often occurs in these spells. During these attacks the child is often helpless, needs assistance, the face becomes red or blue and swollen. After the attack the child complains of pains in the sides of chest, due to effort in coughing and is so tired out that it will sometimes lie down. In milder cases immediately after the coughing spell the child resumes its play. They can tell when a spell is coming on, and often run to a place to expectorate or vomit, or call for assistance a moment or two before the spell comes on.

The paroxysmal stage, if uncomplicated, usually has no fever, nor peculiar physical signs in the chest, perhaps a few moist rales. This stage lasts from four to six weeks, mild cases may be shorter.

In the stage of convalescence, which lasts perhaps four weeks, the paroxysms become milder, less frequent, the vomiting ceases, the appetite returns, the child gets more rest at night and becomes normal in appearance. So in all, whooping cough may last from 10 to 12 weeks or three months.

COMPLICATIONS AND SEQUELA.

The most frequent complications are bronchitis, broncho-pneumonia, pleurisy, collapse of lung, and interstitial emphysema. During the paroxysms hemorrhage may occur in the conjunctiva, nose, and in the brain, may produce convulsions, paralysis or death. Perhaps in very young infants, permanent deformity of chest, chicken breasted. Tuberculosis may be a remote complication.

PROGNOSIS.

This is usually good, the danger lies in the complication, especially broncho-pneumonia. The younger the child the more danger. Also bad in poorly nourished or rachitic children.

Diagnosis can hardly be much without the appearance of the whoop, unless one have the history of contagion.

TREATMENT.

We have no specific remedy for this disease. The child should be placed in the best hygienic surroundings, plenty of fresh air. Cases that are not complicated, may be taken out of doors in pleasant weather, but the street cars, theatres, picture-shows, etc., should be avoided on account of the danger of contagion to others. In the parks, they should be kept away from other children, who are not afflicted with the disease.

Good nutrition is very important as the child often becomes very much emaciated, on account of the frequent vomiting. It is well to give a little milk after each spell of vomiting, as it may be then absorbed before another paroxysm comes on. Among the drugs that are used, I believe belladonna and the bromides are the most useful, they seem to lessen the number and severity of the paroxysms. Syrup of chestnut leaves is a household remedy, and may at least be used as a vehicle, for administering other remedies. Ammon. acet and pot. iodide are also used.

Aconite and veratrum viride are recommended when the vascular engorgement is excessive or when there is danger of hemorrhage, as in the brain, etc., but these drugs must be used with great caution.

Henbane or hyoscyamus is sometimes used instead of belladonna, but is more of a narcotic and not as well borne by children as belladonna.

Quinine is recommended by some. By stimulating the adrenal system and sympathetic center, it increases the propulsive activity of the arterioles and thus augments the proportion of blood, rich in auto-antitoxine into the capillaries. But this is all theoretical.

Amyl nitrite and chloroform are recommended during the paroxysms. Only two or three drops of amyl nitrite and only a few whiffs of chloroform, are to be used. I have never found it necessary to use them.

Bromoform CHBr_3 which is similar to chloroform in chemical composition, except that Br. has been substituted for Cl., has been used but has fallen into disuse. It was not given by inhalation but given internally, two to five drops in elixir.

Antipyrine and chloral hydrate, lessen the sensitiveness of the mucous membranes, but are dangerous to children. Monobromated

camphor has been used but is a gastric irritant.

Heroin combined with terpin hydrate and even opium can be used carefully to give the patient a little rest at night. Various sprays as, for instance, resorein, has been used, but with little or no effect.

A small amount of kresoline vaporized in the room now and then seems to give some relief.

A WIDE BELT.

Experiments are now being made with a vaccine against whooping cough, it is not yet on the market for sale. Cultures of a germ, thought to be the cause of whooping cough (the germ discovered by Bordet and Gagnon) sterilized and put into tubes, each containing 20 million bacteria to each 1 c.c.

During last February three of my own children were suffering with whooping cough, when a new baby was born to us, the birth taking place at a local infirmary. Knowing that whooping cough in a baby so young was a very dangerous condition, on account of the complication and sequelae that might result, I was thinking of how I could protect the little one, when Dr. Phil Barbour suggested that I make use of the vaccine.

I wrote for some of it, and Parke Davis & Co., through their representative, Dr. Bolling, was kind enough to furnish me with a supply. He explained to me as yet it was only used experimentally, and that it had never been used (to his knowledge) in a baby so young, and that he could not promise that there would be no reaction, or how much the reaction would be. Being between two dangers I decided to use the vaccine and begin with a small dose.

The baby weighed seven pounds. When nine days old I injected 1-2 c.c. There being no reaction after a week, I injected 1 c.c., being the contents of a whole tube and represented 20 million dead bacteria, which was followed by no reaction whatever. The baby is now two months old and has never shown any symptoms of whooping cough.

Now the baby is partly nursed on the breast and partly on the bottle. It may be that some immunity was conferred to the baby from the mother, through the breast milk.

In another case, a baby three months old contracted whooping cough from a little brother and sister. This baby being entirely on breast milk. No vaccine was used in this case, as it was not reported to me until late in the disease.

Another baby, six months old, was just beginning with whooping cough. I at once suggested the use of the vaccine but the family objected to its use. Not knowing whether to expect more reaction in a child that was al-

ready infected than in one where there was no infection, I did not insist on using it, especially since they were not in favor of it.

I would like to hear in the discussion, whether there would probably be more reaction in a person infected than in one not infected.

I did not use it on my older children since Dr. Bolling thought it useless in far advanced cases.

I am sorry that I did not have the opportunity to use it in more cases before writing this paper. But it goes to show, at least in this one case, that it was harmless even in a baby so young. So I think there is room for more experiments.

DISCUSSION.

Harry A. Davidson: I simply wish to refer to the treatment. At the Kentucky Children's Home, during a recent epidemic of whooping-cough, I used the pertussis vaccine in about 25 cases. I have also used it in a few private cases, and I am inclined to think that we have found almost a specific for pertussis. I have given it in all stages of the disease and also as a prophylactic. I have given it to babies a few days old, to girls 17 to 19 years old, and in all intermediate ages. Of course, in the young babies, it was given as a prophylactic, because there was whooping-cough throughout the whole building and they were exposed to it constantly. Several of these babies did not develop pertussis after receiving the vaccine. A number of the children received the vaccine as soon as diagnosis was made; that is, as soon as they began to whoop, some ten days or two weeks after the onset of the attack. Some of these children ceased whooping almost immediately—within twelve to twenty-four hours.

In his paper the essayist mentioned the great danger of broncho-pneumonia as a complication of pertussis. Before the use of the vaccine was begun, several cases of broncho-pneumonia had developed and, of course, the administration of vaccine did these patients no good. Holt claims that the mortality from broncho-pneumonia following whooping-cough is from 70 to 80 per cent. While we lost a few children at the Home, our mortality was nothing like that figure. We had several cases of broncho-pneumonia that got well.

As I understand it, the use of the pertussis vaccine is still in the experimental stage and it has not yet been put upon the market; but, after having tried it in 25 or 30 cases, I feel that it is almost a specific in this condition.

Dr. Rapp did not mention one drug which I have used in a great many cases of pertussis; namely, calcium sulphid. Dr. Barbour and I have used this agent for many years, and we have thought that we have secured better results from it than from any other remedy. We simply sat-

urate the child with calcium sulphid and, as a rule, with excellent results. It does not stop the whoop but it considerably lessens the number of paroxysms.

I wish to thank the essayist for his very able paper.

Wm. A. Jenkins: So far as the treatment is concerned, I have been watching very closely the reports made by Dr. Davidson and others in connection with the use of pertussis vaccine, and it seems to me that we are going to have in this vaccine an ideal treatment for whooping-cough.

I wish to make just one or two points in connection with this subject. If the vaccine treatment does not prove to be what is expected of it, our hope must continue to lie in the employment of such remedies as will tend to shorten the paroxysms and decrease their severity, for therein lies the danger—not only the danger of extension of the infection, and from vomiting, thus keeping the patient from obtaining sufficient nourishment, but also from the damage which may be done to the pulmonary structures. Any one who has ever seen a child in a paroxysm of whooping-cough, knows the great strain to which the pulmonary mechanism is subjected, and we should do everything we can to lessen this and preserve the lungs so that their further growth and development may not be impaired. The elastic and muscular elements of these structures are so injured by the attack that the lung loses its tone, thus rendering the patient more liable to ordinary infections with which they are unable to cope as well as they were before being subjected to this weakening influence.

I think the essayist mentioned most of the remedies in use at the present time. I disagree with him in regard to the use of antipyrin. All of the recent text-books favor the use of this agent. It should be given in minute doses, every few hours, in syrup of chestnut leaves—not because the latter is a "household remedy," but because I believe there is really some virtue in the leaves of the chestnut tree. A syrup of these leaves, made with brown sugar, and fed to the child in teaspoonful doses, every few hours, makes an excellent vehicle for minute amounts of belladonna, antipyrin and some salt of opium, such as sulphate or phosphate of codein, and will tend to decrease the severity and frequency of the paroxysms and thus, in a measure, do away with the strain on the elastic and muscular elements of the pulmonary structures.

Bernard J. O'Connor: I believe that we have all had the same experience in the treatment of whooping-cough, and that each of us has his favorite drug, differing with the individual. Personally, in a little epidemic in my own family, I secured very remarkable results from one of the oil of thyme preparations. It apparently not only lessened the number of paroxysms, but it had an astonishing effect upon the children's appetites. The vomiting decreased to a marked ex-

tent, and the children ate twice as much after taking it as before. The children showed an average gain in weight of five pounds during the course of the attack.

Pertussis is not rare in adults, but in the few cases that I have seen there was no "whoop". In my own family, I am sure that the children acquired the disease from a servant girl, about 40 years of age, who for some weeks had been troubled with a very distressing cough, and shortly afterwards the children developed whooping-cough.

I am exceedingly glad to hear the favorable reports that have been made on the vaccine treatment of this condition. If other investigators are able to corroborate the experiences of Dr. Davidson and Dr. Rapp, it would appear that we have a specific for the treatment of whooping-cough.

Just one point in regard to the use of vaccines as a prophylactic measure. I think too much is being said about the so-called negative phase. If you have read the recent literature in connection with vaccine therapy, especially in typhoid fever, you will have noticed that, in the dozen or so of cases that have been reported, where typhoid fever was acquired just at the time the vaccine was administered, the disease ran a very mild course, the average duration being something like two weeks. Therefore, I see no reason why, in any institution, where an epidemic is just starting, or even when it has reached fair proportions, vaccine should not be administered. The use of the vaccine should be begun as early as possible; there is no use of giving any kind of medicine when a patient is dying. The use of an appropriate vaccine early in any infection, will most likely give good results.

Oscar W. Doyle: I have been very much interested in the report made by Dr. Davidson in regard to the use of pertussis vaccine. When a man of his calibre makes the statements that he has made, we can come very near saying that we have a specific for this condition.

A few remedies that I have used with good results have not been mentioned. One of these is oil of eucalyptus, and another of iodide of calcium. I have had better results from the iodid than from the sulphate. I have used it in all cough conditions in children with splendid results. An emulsion made with oil of eucalyptus will decrease the frequency and severity of the paroxysms to a marked degree, and I have discarded all other remedies in cough conditions in children.

P. Richard Taylor: One of the speakers mentioned the infrequency of whooping-cough in adults. During an epidemic which occurred in this city in the spring of 1911, I saw a great many cases, one of them a man 65 years of age, who came to me for trouble with the throat, and in which I made diagnosis of whooping-cough; in fact, I had it myself for three weeks before I

knew what was the matter. In my own case the paroxysms were so terrible that I was almost afraid to go to sleep, and when I felt an attack coming on I would try to get hold of something; or, if nothing was available to hold to, I would pick out an easy place to fall and get down on my knees and choke and choke until the paroxysm ended. A local physician brought his brother to me, and said that he had some trouble with his throat, characterized by choking spells. I had a great many such cases, and of course I referred them to their respective family physicians for treatment. If the condition is as bad in children as it is in adults, judging from my own experience, we need some efficient remedy and we need it badly. In my own case I ruptured a blood vessel in the conjunctiva in each of my eyes. In stooping over and coughing, all the air would be expelled from my lungs and I would not have any when I straightened up, and that is one of the most distressing conditions that I know of.

A. W. Nickell: I am glad to hear such a free discussion to-night among the internists of a subject which is of such vital importance as whooping-cough. It is interesting to look back over the history of this affection from the time that Danz wrote his first monograph in 1791. Berger reports one case in a woman 57 years of age; Heberden reports a case of whooping-cough in a woman of 70 and another in a man of 80 years old.

I wish to particularly speak of the complications of pertussis. I hope I will not be considered too radical when I say that a disease of this kind should be placed in the category, so far as the mortality is concerned, with diphtheria and scarlet fever. It is not the disease per se that kills by the dissemination of toxins, as in diphtheria and scarlet fever, but it is by the complications which follow in its wake, which, during the winter months, is most frequently broncho-pneumonia, and in the summer months, gastro-enteric diseases. Again, it very frequently causes malnutrition, which renders the patient more susceptible to intercurrent disease, tuberculosis frequently following a prolonged attack of this malady.

While doing postgraduate work in New York, a while ago, I had the pleasure of being associated with Jacobi, and of working with Kerley, who has long been associated with Holt. Dr. Davidson spoke of Holt's mortality statistics being between 70 and 80 per cent., but I think that is an error. In founding asylums and hospitals for infants, in some epidemics, he gives a mortality as high as 50 per cent. A disease so grave as this requires more thought and consideration than we have been in the habit of giving it. On one occasion, an epidemic broke out in the country branch of the New York Infant Asylum, and we had constantly under quarantine a large number of cases. As fast as one case would be discharged, another would contract the disease. During

this epidemic we tried out practically every form of treatment known. The cases as they developed were divided, for study, into groups of 20, and allowed to run along without any treatment at all until they reached the height of the paroxysmal stage, which was something like from ten to fourteen days after the initial symptoms. Then a careful record was kept, day and night of the number and severity of the paroxysms, and after they had gone along for three days without any change in severity, we believed the height of the paroxysmal stage had been reached, and it was then considered to be time for medication, which consisted in the use of insufflations and inhalations, followed by internal administrations. In six cases we practiced direct insufflation with bicarbonate of soda, boric acid and resorcin, but after using this for three days without any benefit, it was discontinued. Then we tried inhalations medicated with wine of ipecac, with beechwood creosote and with turpentine, from which we obtained very excellent results. For internal medication the drugs selected were, alum, fluid extract of horse chestnut leaves, dilute nitric acid, hydrochlorate of cocaine, bromoform, quinin, the bromides, belladonna and antipyrin. We tried the fluid extract of horse chestnut leaves and got practically no results. We tried 40 cases with alum, which was of some service, but badly borne by the stomach. Bromoform was useful in a small percentage of cases only. We treated a number of cases with dilute nitric acid and got no results from that. Cocaine possessed some value in controlling the paroxysms, but the results were not sufficiently marked to warrant its further use. Some benefit was derived from quinin, but its administration was attended with difficulty. Then we took up belladonna, and in 60 cases in which we used it to the point of physiological effect, for from five to seven days, no results were obtained except in three cases. Then we began the use of the bromides, using doses of equal amounts of the bromides of soda, potassium and ammonium, which, when given in syrup of raspberry, on a full stomach, from all standpoints, accomplished the best results of any treatment thus far given, and was attended by very little, if any, stomach disturbance. Then antipyrin was used in 60 institutional cases, was readily taken and easily borne by the stomach—two very desirable requirements; is not depressing when administered with any degree of intelligence, and produced the most beneficial effects of any drug given alone, the bromides taking second place. The two were then combined and used in a number of institutional cases, and more effectually controlled the disease than when either was given alone, our doses being given, for instance, in a child from 8 months to 1 year of age, 1-2 grain of antipyrin and two grains of bromide of sodium, every two hours, giving six doses in 24 hours, in

the exipient above mentioned. This combined treatment was subsequently tried in about 600 cases at the infant asylum, the out-patient department of the Babies' Hospital, and in private practice, with the most gratifying results.

I have had no experience with the pertussis vaccine, but hope it will prove to be of value.

H. L. Rapp, (Closing): I have enjoyed the discussion of this paper very much. I did not know that Dr. Davidson had been using the pertussis vaccine until a few days ago, and I am glad to have heard his report. From what I understand, it is a perfectly safe thing to use in children, as there is no reaction whatever.

I am afraid to give antipyrin to a child unless a trained nurse is in attendance to give it proper attention in case it should become blue, as sometimes happens. Codein may be of some benefit in these cases. Heroin is dangerous. I have never had any experience with oil of thyme, but think it may possibly be of value. It is recommended by many.

I was told by one old darkey not long ago that mare's milk was a sure cure for whooping-cough, and in the case where they refused to allow the vaccine to be used, they said they had a mare and would obtain some of its milk, but they never reported to me whether they used it or not. Another old-time remedy is to take these children to the gas-works and let them inhale the fumes. One family showed me a tin bucket containing some slack from burned coal, and said that they simply put hot water on it and allowed the child to inhale the fumes. It smelled just like tar, and it is possible that it contained coal-tar products which may have had a sedative effect.

Constipation in Children.—Perier and Ganjoux discuss the symptomatic importance of constipation from obstruction, from modification of the contents of the intestines and from defective action of the expelling muscular fibres or nerve plexuses innervating the intestine. Search for the cause along one of these three lines will clear up many puzzling syndromes. Constipation in the mother, especially from lack of out-door exercise, is a frequent factor in the constipation of infants. Congenital stenosis of the rectum may escape discovery for several weeks or months.

Resection of Orbit to Relieve Exophthalmos.—Dollinger reports with illustrations a case of exophthalmos so severe that the cornea of the left eye became ulcerated and the patient, a man of 62, suffered from intense pain in the eyes and head, rebellious even to morphine. There were no other symptoms of Basedow's disease. By resecting the wedge from the outer wall of the orbit, the eye-ball sank more to the side, relieving the forward protrusion and enabling the lids to close over the cornea. The pains subsided and the corneal ulcer soon healed.

CLINICAL CASES.

EXHIBITION OF SPECIMENS.

By GEO. A. HENDON, Louisville.

I.

PAPILLOMATOUS CYST OF THE OVARY.

The first specimen is a papillomatous cyst, involving both ovaries, with an independent cyst, covered with papillomatous growths, which was wedged down into the culdesac, and which, upon examination of various sections taken from different portions of the tumor, exhibited malignant structures.

This case was operated upon about two years ago, and there has been no evidence of recurrence since operation.

II.

EPITHELIOMA OF THE SUB-MAXILLARY GLAND.

This patient, a man, was operated upon six months ago by a local surgeon for epithelioma of the lip. Recently he came to me with a well-defined enlargement of the submaxillary gland. This was removed by complete dissection, making the well-known Crile incision on three sides, turning the flap back and clearing out the cervical triangle. None of the glands were enlarged except the submaxillary which I have here. June 1st: this patient has since died.

III.

CAULIFLOWER EPITHELIOMA OF THE CERVIX.

This was removed by the vaginal route, by excision and actual cautery. The patient returned, in three or four months, with a recurrence of the growth, and a secondary operation was performed.

Since that time she has gone along and gained very much in weight, now weighing 153 pounds, which she tells me is about 20 pounds more than she has ever weighed. Of course, the time has been too short to make any definite statement as to the outcome of this case, but she is well, so far as she knows, is able to attend to her work and has gained in weight. This growth was removed by first excising the cauliflower material, then packing the vagina with iodoform and using an ordinary tinner's soldering-iron to cauterize. The discoloration, I presume, was brought about by the vaginal secretions.

The second growth is, as you see, considerably different from the first, both in size and appearance, but both have been carefully examined, sections being taken from different portions of the growths, and their epitheliomatous character demonstrated. In the second operation, in removing the tumor, which was situated on the posterior portion of the

cervix that had been left, we cut very wide and got into the peritoneal cavity, but no trouble followed and the patient made a very nice recovery. June 1st. This patient is still well.

IV.

EPITHELIOMA DEVELOPING FROM A NAEVUS.

The photograph which I herewith exhibit, shows the site of the naevus from which this tumor developed. The patient first noticed signs of irritation in the birth-mark in 1895. Since that date the growth had gradually become larger until he finally sought relief on account of the hemorrhage which occurred. This growth was also removed by first excising the mass and then using soldering irons to cauterize. There was considerable metastatic involvement, extending up into the axillary space and down into the inguinal region. Therefore, I presume that marked benefit cannot be expected; that the removal of this mass of tissue is simply palliative. June 1st. He has since died.

V.

SARCOMA OF THE HIP-JOINT.

This tumor had existed since last June, when the patient was seized with pain in the hip and, as is natural in such cases, there being no swelling, it was attributed to sciatic rheumatism and the patient was so treated. He was brought to me from a distance in January of this year. I made an incision and was able to remove this tumor from the femur. It had destroyed the periosteum and caused a pseudo-paralysis of the femur. I did not deem it wise to attempt to do a hip-joint operation, because these cases generally die. This has been admirably and completely worked out by Bloodgood, who has shown that as good results are to be obtained from excision or resection as from amputation.

VI.

APPENDICES.

This is an appendix which was removed as an incident to an operation for the removal of an ovarian cyst about the size of an orange. One very important feature in connection with this cyst is that it attracts attention by causing a great deal of uterine hemorrhage. This patient had been cured a number of times on account of the hemorrhage she had during her periods. At operation it was found that she had an ovarian cyst about the size of an orange. On one occasion, while attending one of Dr. Murphy's clinics, I saw him remove a similar growth and he laid great stress upon the production of hemorrhage.

During the operation we encountered this appendix. The patient had never shown any signs of appendicitis. It is interesting to

note that the organ has become completely solidified with fecal concretions.

These other appendices I exhibit because one appendix always looks lonely by itself.

These cases are reported merely to illustrate some of the phases of malignancy as we meet it in our daily work.

DISCUSSION.

J. Garland Sherrill: I would like for Dr. Hendon to explain whether he means that these patients die primarily from the operation, or secondarily.

G. A. Hendon: These patients usually die very promptly after operation. Very few recover from disarticulation of the hip joint. I suppose the reason is that, generally, when they come to operation they are very much depreciated in health by the cancerous cachexia, and are, therefore, unable to stand the shock of extensive surgical procedure. If they could be gotten early, no doubt the operative recovery would be as good as in other conditions.

Wm. H. Wathen: I wish to speak of only one of the cases reported by Dr. Hendon; that is, the cauliflower epithelioma of the cervix. This is the most amenable to treatment of all forms of cancer of the uterus, if operated upon at all timely. I operated upon a woman, twenty years ago, removing a cauliflower mass larger than this, and then removing the uterus per vaginam, and this patient has not had any trouble since the operation. I do not understand why Dr. Hendon did not remove the uterus. That is the only way to obtain the utmost security against the return of the trouble. From what he says, I feel reasonably certain that, had he removed the uterus, the chances would have been in favor of a permanent recovery, but it is not probable that she will recover after the amputation of the cervix, done at the second operation, and if she has another recurrence it will probably extend so far up into the structures that a radical operation will not do the good it would have done at first.

J. Garland Sherrill: Just one point in connection with the case of sarcoma of the femur. I cannot agree with Dr. Hendon that all cases of hip amputation die operative deaths. I have never lost a patient from amputation of the hip joint in my life, and I know of a number of other surgeons who have had a similar experience. I do not believe that a man in fair health should die from a hip amputation, provided it is a clean case, without any pus. In my opinion, the mortality from hip-joint amputation should be about two or three per cent.

In regard to recurrence, I believe that in nearly all of these cases there is recurrence followed by death. I showed a patient to this society fourteen days after amputation of the hip joint for sarcoma, involving the knee. I think Dr. Hendon saw that patient. He died within a year,

from recurrence in both forearms, in the abdomen near the stump, and in the opposite leg.

G. A. Hendon, (Closing): In reply to Dr. Wathen, I will say that every case demands special consideration. My surgical judgment—which in all of us is partly instinct, and we cannot explain how much of it is good nor how much is bad, in this case was all against total hysterectomy; I did not think the patient would be able to stand it.

REPORT OF CASES.

By E. S. ALLEN, Louisville.

CASE I.

OPERATION UNDER LOCAL ANESTHETIC FOR PERFORATED GASTRIC ULCER.

(REPORT OF CASE.)

In the early part of January this patient was brought here from the country with the following history:

Male; white; age between 45 and 50; had suffered for a number of years with what he termed "stomach trouble," and had been treated along this line with only temporary relief. His attacks of late had become more frequent and more severe. His family physician, believing that he had some gallbladder involvement, brought him to this city for operation. He came under my care on Sunday afternoon, January 7th, giving the following recent history: On the preceding Wednesday, at about five o'clock in the morning, he had been seized with intense pain in the right upper abdomen. His physician was called and, finding him in extreme pain, gave him 1-4 grain of morphine. In half an hour he had to repeat the hypodermic, without relief. In an hour another hypodermic was given, the patient getting some relief. The patient was more or less under the influence of morphine, with little relief, until Sunday at 5:00 P. M., when I saw him. His condition was serious; pulse 160; temperature 98; anxious expression; abdomen distended and very sensitive, especially over the gallbladder region; in fact, he came to me with a diagnosis of gallbladder trouble. He was vomiting frequently, a brownish fluid from the upper small bowel. He had not taken nourishment since the attack until the morning he left home, when he drank a glass of buttermilk. He had received several doses of castor oil since Wednesday. From the history of the case I suspected a perforated gastric ulcer with peritonitis, but was somewhat in doubt as to the correctness of the diagnosis from the fact that, 20 minutes before he was placed on the operating table he vomited a quart of fluid, and the extreme tenderness over the gallbladder region, and the radiating pain to

ward the right shoulder, made me consider a perforated gallbladder. One thing I felt sure of was that, at least, I was dealing with a peritonitis. On account of his poor heart action we felt that a general anesthetic was not advisable. I informed the patient that his condition was serious. He realized this and asked that we operate on him. A one per cent. solution of quinin and urea hydrochloride was injected into the skin over the gallbladder region and infiltrated into the deeper structures, trying to infiltrate to the peritoneum. After waiting 15 minutes the skin incision was made, the patient stating that he did not experience any pain whatever. With a very sharp knife I incised the fascia, separated the muscles, picked up the peritoneum and incised it. I again asked the patient if I was giving him any pain; he stated that he did not feel any. When the cavity was opened a large amount of oily material was seen floating on the peritoneal fluid. It struck me that I might be dealing with a pancreatitis and that this oil was fat digestion; but the odor of castor oil was soon recognized. At least a tablespoonful of castor oil could have been dipped up. There were also some milk curds floating on the peritoneal fluid. The gallbladder was examined and found to be red and engorged, but not enough pathology existed to account for the peritoneal picture. The stomach was then pulled down and a large perforating ulcer presented in the field, located on the anterior surface of the stomach, about two inches from the pylorus. The patient said that he felt some pain when I pulled on the stomach. On account of the patient's condition I did not attempt to excise the ulcer, but with a purse-string suture I inverted it and then closed over with peritoneal sutures. Still no pain. I then closed with through and through silk-worm gut, having instituted drainage. The patient came off the table with apparently as good a pulse as when we started. He was placed in the Fowler position and proctoclysis instituted. The following morning the patient's pulse was 140; physiognomy apparently better; had slept some during the night. Temperature 100. For the next forty-eight hours I entertained some hope for his recovery, but on the following Wednesday morning he began vomiting, and, despite gastric lavage and hypodermoclysis, died on Wednesday afternoon.

I report this case merely because of the fact that the patient experienced practically no pain during the operation. I have, on several occasions, done minor operations under local anesthesia with quinin and urea hydrochloride, and once removed a fibroid tumor of the parotid gland with satisfactory results. In looking up the subject, I find that several strangulated herniae in individuals who

would not take a general anesthetic, had been successfully operated upon under this local anesthetic. Empyema of the gallbladder and appendiceal abscesses have been successfully dealt with in cases where the weakened condition of the patient precluded a general anesthetic. Dr. Green, of this city, reports several fissure and hemorrhoid cases operated upon under quinin and urea. The only objectionable features that I find mentioned are, the 15 or 20 minutes wait for anesthesia, and the induration which persists for as long as two or three months. However, this seems to occur only when solutions stronger than 1 per cent. are used. Some claim delayed union following the use of strong solutions.

CASE II.

Recently I was called to the country to operate for an abdominal tumor, in a man. I suggested to the family physician that the man be brought to the city, but he stated that the patient was not willing to come, and he did not think he was strong enough physically to stand the trip, as he was vomiting. I went out, prepared to operate, and found a man, 68 years of age, with a tumor extending to above the umbilicus. He gave a history of having had this tumor for eighteen months or more, always remaining about the same size. He had been working whenever he could, but could not bend over, being compelled to get down on his knees when he wanted to pick up something. I asked about his urine and he said that he had to get up several times every night to void, which took some little time. I examined him per rectum and found that he had a very large prostate gland. I suspected that this tumor was a distended bladder, but did not have a catheter with me. He was suffering no inconvenience at the time, but had had a vomiting spell two days previous. I advised him that it would be best to come to the city and let me observe him over a longer period of time, and ascertain the condition of his heart, kidneys, etc. He consented and came here. After getting him to the hospital

I had him void urine, and then introduced a catheter and drew off fifty ounces of perfectly clear urine. Upon microscopical examination not a pus cell could be found. From the history he gives, I believe that he had retained from forty to fifty ounces of urine in his bladder for a period of eighteen months, merely voiding what the muscular pressure forced it out. He was kept in the hospital and the accumulation of urine was drained out every two or three hours, trying in this way to restore the tone of the bladder, at the same time giving him large doses of urotropin to stimulate elimination, after which I did a perineal prostatectomy. The central lobe of the prostate was very large and obstructive, these

smaller portions sticking up high in the urethra and producing complete obstruction.

I report this case merely because of the large amount of urine retained for so long a time, leading to a mistaken diagnosis of fibroid tumor when it was merely retention of urine produced by this enlarged prostate.

DISCUSSION.

J. Hunter Peak: I would like to ask Dr. Allen as well as others who have used urea in connection with quinin, what special effect the urea has. Several years ago, while living in the south, it became necessary to administer to myself on account of malarial poisoning. I soon found that I could not take quinin by the mouth, and it was suggested to me to take bichloride of quinin, dissolved in forty parts of warm water, and inject it hypodermically, and I remember that sometimes for fifteen or twenty days there would be no sensation in my limbs where the quinin had been injected. Therefore, I would like to know why the urea is added.

The second case is not an uncommon condition in these patients with large prostates. I remember being called to a neighboring town last summer to see a man, 72 years old, with an enlarged prostate and a distended bladder, just as in the case reported by Dr. Allen. This man had to use a catheter as long as he lived, as I was never able to get him in suitable condition for operation.

I remember another case of distended bladder in a woman who had been sent to the Infirmary for operation. I was called to operate, and upon catheterization between forty and fifty ounces of urine were obtained. She died of uremia two or three days later.

J. Garland Sherrill: The second case reported by Dr. Allen is rather unique. We frequently see cases in which the bladder takes care of a good deal of urine, but the unique feature in this case is the time that elapsed from the time that the tumor was first noticed until operation. I have myself operated upon a man whose bladder carried much more urine than this. This was a man 79 years of age, upon whom I did an emergency prostatectomy because of suppression of urine. His trouble had run along for two or three weeks. It is remarkable for how long a time the bladder will retain a great amount of fluid without rupture and without infection. One would think that, with this amount of fluid in the bladder for such a length of time, infection would almost certainly ensue. Had any instrumentation been employed during this period, he would probably have had infection of the bladder.

W. T. Bruner: I have had some experience with quinin and urea hydrochloride, and in some cases I like it better than cocaine as a local anesthetic. It is a very good thing in tonsillar operations for the reason that the anesthesia lasts

longer than that produced by cocaine. In tonsillar operations there is usually severe pain for some time after the effect of cocaine has worn off, while with quinin-urea the pain does not come on for a number of hours and is not as severe as when cocaine is used. Furthermore, quinin-urea is safer than cocaine. The first time I used this anesthetic was in the removal of a cystic tumor, about the size of the end of my little finger, from the outer canthus, which was accomplished without any pain whatever. I regard it as an improvement over the old method with cocaine, and I have been using it for several years in operations about the nose, throat and eye.

Herbert Bronner: I think one interesting feature in connection with the second case would be to watch and see how much restoration of bladder power this patient is going to have. Mr. Fenwick has shown that, in cases of stricture or enlarged prostate, the longer the retention has gone on, the less restoration of bladder power there will be. In stricture, it does not make any difference if we do produce an anatomical cure, the restoration of function will depend upon how long the bladder wall has been subjected to stretching. Dr. Allen's case is unique with respect to the length of time the retention had existed. We see cases every day where a man has a few ounces of residual urine, or complete retention for a day or two, but to have retention of such an amount as in this case, for months and months, is rather unusual, and to me it appears to be very doubtful whether this man will have restoration of bladder function.

E. S. Allen, (Closing): I have very little to say in closing. In regard to the first case, I will say that all during the operation I was talking to the man. He asked half a dozen questions, and during all the manipulation he did not once complain of pain. I thought that possibly some of this insensibility to pain was due to the man's extremely weak condition, but whenever I made any traction on the stomach he would flinch. I was surprised by the fact that he did not show any evidence of pain while I was cutting through the abdominal wall and parietal peritoneum, where we would naturally expect pain, as well as in handling the gallbladder.

I am sorry that I cannot answer Dr. Peak's question as to the part that urea plays in this anesthetic.

In regard to Dr. Brunner's remarks, as to the possibility of restoration of bladder function in the second case, I had thought of waiting a while, keeping the bladder empty, to see whether he would regain any muscular or physical control. However, it seems to me that, after removal of the prostate, keeping the bladder empty and occasionally filling it up to ascertain what amount of muscular control had developed, would play just as much part in securing restoration of blad-

der function as waiting a long period of time, with the frequent use of a catheter and running the risk of infection.

ANEURYSM.

(REPORT OF TWO CASES AND EXHIBITION OF SPECIMENS.)

By J. GARLAND SHERRILL, Louisville.

CASE I.

Patient, male; white; age 29; admitted to the City Hospital January 5th, 1912.

Family history free from cancer or tuberculosis.

Personal History: Had typhoid at the age of 16; brain fever (as he expressed it) at 17; rheumatism, 6 years ago; denies history of syphilis but says he was treated for iritis several years ago. Iritis was probably syphilitic. He took iodide of potash at that time and says he received some form of local treatment for the eye condition. I do not know how long he was under treatment nor if it was carried out with any degree of skill.

Present trouble began three years ago with pain in the abdomen and back, which has grown progressively worse. When he came to the hospital he gave a history of an exploratory laparotomy having been done on August 8th, 1811, by Dr. Leo Bloch, in an effort to clear up the diagnosis. The abdomen was closed on that occasion without any effort being made to treat the aneurysm. The pain complained of was of a continuous, jumping character, localized above the umbilicus. Upon inspection and palpation a pulsating tumor could be felt. The pulsation was extensive and very distinct. Upon auscultation, a distinct bruit was noticeable over the whole area of the tumor that we could make out on the abdominal wall.

Patient was operated upon January 8th, 1912, with a view of attempting to wire the aneurysmal sac, which was carried out. He made an uninterrupted convalescence, and on January 15th, was doing nicely, the pulsation having markedly decreased. The history, as given by Dr. Clark after that time, is that the symptoms continued to improve. This improvement I believe to have been partly due to rest in bed. He was kept constantly at rest subsequent to the operation, and the area over which the bruit could be heard considerably diminished.

The wiring was not quite as successful as I should have liked it to be. We got about 8 1-2 or 9 feet of wire into the sac. I first used a very small wire, which would not go through the needle very well. Then I took a larger sized wire, but could not force it in and discontinued it.

At the present time the tumor has decreased in size, the pulsation has diminished, and the bruit cannot be heard over quite as large an area as before the operation.

CASE II.

In the second case, which was in the same clinic at the City Hospital, I tried the compression method, and I believe it would have been successful but for the fact that the patient would not stand the pain. This patient had a popliteal aneurysm. He gave a clean family history. His personal history shows that he formerly used alcohol to excess. He is a colored man, 49 years of age. He denied a history of syphilis and I was unable to find any evidence of the disease. Has never been sick, except for the ordinary diseases of childhood, until the present trouble began. He came to the hospital on December 19th, 1911. Two weeks prior to this time he had noticed a small lump in the left popliteal space, which had grown progressively larger; no definite history of traumatism, although he thinks he strained his leg. Upon examination, a tumor, about the size of a duck's egg, with a distinct transmissible pulsation and bruit, could be readily made out, and I recommended that compression be tried. I have succeeded, by manual and bandage compression, in effecting a cure in four cases, but in this case it was abandoned because of the pain it caused. I was not present when pressure was started by relays of students, and evidently the young men were a little too anxious and applied too much pressure. It was then decided to try the next best form of treatment; namely, ligation of the femoral at the apex of Scarpa's triangle.

This was carried out on January 8th, but I understand, from the history given by the interne, that the limb was not put up in cotton until it had become entirely cold. It was then put up in cotton and a hot water bath applied. The leg began to get warm and in twelve hours had regained its normal temperature. The patient insisted upon leaving the hospital four days after the operation.

My experience has been that compression is the best and most simple method of effecting a cure of popliteal aneurysm. Ligation is a successful method, provided the tumor has not grown to such an extent as to produce oedema below the site of the aneurysm. If this is present, the coagulated blood remaining after ligation there may cause sufficient interference with the circulation below to render gangrene likely, in which event it would probably be best to do a Matas operation, or to excise the sac.

DISCUSSION.

Leo Bloch: I saw this patient early in the summer of 1911. Diagnosis was made and abdominal section performed and, from the size of the aneurysm and its location, wiring was deemed inadvisable. Statistics show that this operation entails considerable risk and the results are not always good. Furthermore, while under my care this man was a private patient and, of course, that makes quite a difference. We do not have as much control over a private patient as we do over those in a city institution. I did not think the operation was advisable at that time, so the wound was closed and the patient kept in bed for quite a length of time with considerable improvement. As long as he remained in bed he suffered no pain and gained in weight. Finally, he left the hospital and went to his home in the country, where he continued to improve as long as he remained quiet. Then he returned to the city and went to the hospital. Dr. Sherrill called me up and told me that he was going to operate, and invited me to witness it, which I was unable to do.

The man's condition now is not as good as when I last saw him; the growth is no smaller. I would suggest that a radiograph would show whether or not a clot has formed, but from the man's appearance he does not seem to have been benefited in any way.

I have had some experience with abdominal aneurysm, and wired one of them with very unhappy results. The patient became able to leave the hospital, but the aneurysm ruptured at the site of the wire. The wire was shoved over to the far side, and post mortem showed the rupture to have taken place on the far side of the aneurysm where the wire had caused a clot to form. However, in some cases, wiring is worthy of a trial, but statistics show that it is attended by a very high mortality. Before his present trouble began this man was a molder, and even if he does make a partial recovery he will never be able to resume his former occupation. I am glad to see some one who is willing to take a chance with operations of this kind.

W. D. Dugan: Just a word in regard to the introduction of wire in these cases. The doctor spoke of the wire entering the sac. I think that is one fault to be found with the introduction of wire; it is very important that it should be introduced in a certain way. The wire should be on a spool and the end should be fitted into a canula of the ordinary kind, such as we use in tapping a hydrocele in a baby. When the canula is introduced the blood will spurt out. The point you want to watch is to not get the wire kinked. It should be fed into the cavity in such a manner that it will assume a coiled position. If this is done the complication mentioned by Dr. Bloch will not occur. If you straighten the wire and pull the spring out of it, it will impinge against

the wall and kink up, and you will have simply a mass of wire inside the cavity instead of a perfect coil. Care should also be taken that the last portion of the wire likewise assumes a coiled position. I think that is the whole secret of the treatment of aneurysm by means of wiring.

In regard to the second case, I think the treatment employed by Dr. Sherrill is the best method to use in these cases. I want to go on record as opposing the Matas operation; I would use it in the presence of an acute aneurysm but in no other form. I go even further than Dr. Sherrill. He says he would employ the Matas operation where there is much oedema of the leg. I would not. Where the condition has existed for some time and collateral circulation has been established, there is no reason why we should resort to a major operation when a minor operation will serve the purpose; namely, ligation on the proximal side.

I agree with Dr. Sherrill in regard to either digital or instrumental compression. It is a very painful process to the patient and very tiresome to the operator. However, if the operator will suspend a bag of shot from his hand, thus getting the advantage of the weight of the shot in addition to the pressure of his fingers, it will, to a great extent, relieve the muscular tension.

J. Garland Sherrill, (Closing): One thing that is especially interesting about these cases is that I saw both of them on the same day.

In the case of the abdominal aneurysm, I do not believe this man is cured. I believe this aneurysm lies at the origin of the coeliac axis, and obliteration of that vessel would probably block the hepatic vessels and cause considerable discomfort, if not loss of life, therefore, the outlook is unpromising.

In regard to the operation itself, the wire that I first attempted to use was too fragile, and the second was too large; I had difficulty in getting it through the tube that was to carry it. Therefore, I put the wire directly through the opening made by the canula in the wall of the sac, and what I did get in was introduced without the aid of a canula.

I had the temerity on one occasion to wire a thoracic aneurysm, using a very small wire. Ten days later, after the patient had completely recovered from the operation, the aneurysm ruptured, but the rupture was into the oesophagus and not at the site of the puncture. Therefore, I believe there is very little danger of rupture at the site of the puncture.

The results of treatment of aneurysm in the thorax and abdominal cavity are not good at the present time. I think two cases are recorded, in one of which the patient lived 53 days after a ligature operation, and in the other, 39 days. One is reported by Keen and the other by a foreigner whose name I do not recall. The results of any form of treatment have not been good, but if we succeed in relieving one of these patients,

we have relieved a man who is otherwise absolutely condemned to death.

In regard to the second case, this man left the hospital four days after the operation, contrary to the advice of the attendant at the hospital and myself. However, I have seen him since and he is getting along very nicely.

BRONCHIO-PNEUMONIA WITH HEMATEMESIS.

By HARRY L. READ, Louisville.

Patient, M. J., aged 5 years. Was first seen by me on the morning of January 26, 1912. The family history showed no constitutional diseases, yet both parents are extremely nervous. Patient was seventh and last child born in the family. Other children of the family are all living and well, but are subject to colds, tonsillitis and bronchitis.

Previous history. Bottle-fed baby, during his second year was seriously ill with gastrointestinal disorders. Has had measles, whooping cough, and several attacks of tonsillitis.

Present condition. Inspection disclosed a rachitic child, large head, belly bulging and tumid, decayed teeth, coated tongue and foul breath. Examination of chest showed a bilateral broncho-pneumonia, both tonsils large and inflamed. Liver enlarged and abdomen very large and markedly tympanitic. An annoying cough and pain on pressure of right side of chest.

Pulse 130, respiration 26, temperature 102 degrees F. After prescribing for patient and before I left his bedside he vomited about one pint of dark clotted blood. I ordered one half teaspoonful of adrenalin solution, 1-1000 given him at once, and this dose to be repeated after each hemorrhage.

Gave two grains of calomel to be followed in four hours by an enema of normal saline solution.

About two p. m. the enema was given resulting in a large dark, bloody stool. Vomited about one-half pint of dark blood. I ordered papine to quiet and control cough. Pulse 154, respiration 40, temperature 103 degrees F.

Patient had five hemorrhages during first sixty hours of illness. Stools contained no blood after the fourth day. Pulse ranged from 120 to 160. Respirations from 24 to 50. Temperature from 102 to 104 degrees F.

I dismissed patient February 13th, 1912, nineteen days after he was taken ill.

Besides treatment previously mentioned he had a few doses of castor oil. Creosote carbonate, 5 drops in milk every four hours. Ammonia in syrup of wild cherry as expectorant cough mixture. Digitalis, strychnia

and brandy as heart stimulant. Syrup iodide of iron and glyco-phospho-calico as tonics. Plenty of fresh air and proper food.

DISCUSSION.

W. A. Jenkins: I think any physician who has had considerable clinical experience always approaches a case of lobular pneumonia with considerable trepidation, even when the circumstances are favorable, and his trepidation increases in direct ratio to the unfavorableness of the attending circumstances. There are several reasons for this. One is that bronchial pneumonia more commonly attacks debilitated children, whose vitality is very low—rachitic children, tuberculous children, those subject to some chronic infection, etc. The disease seems to have a sort of predilection for this type of children. There are, perhaps, one or two other factors. One, which I have mentioned to this society before, is that the vascular system of the child in infancy and the earlier period of life, is not stable; the muscular and elastic elements have not developed in proportion to the other organs of the body, and collapse and atelectatic conditions are apt to occur. Another reason is that this type of pneumonia, from the standpoint of bacteriology and physiology, produces a very different lesion to those produced by other types of pneumonia. A horizontal section of the involved area of the lung will show an inflammatory, infiltrating, exudative process, all the way through; it is not confined to the area of vessels and mucous membranes, but occurs in the bronchial walls and in the peri-bronchial structures, and even, perhaps, a small amount of infiltration between the visceral layer of the pleura and the bronchial mechanism. Again, we know that this process does not behave like an ordinary infection in that it does not wind up with so-called crisis; it is more like a chronic infection—better one day and worse the next, tending to drag along for some time, up and down, and sometimes two or three weeks elapse before the final event of recovery or death takes place. When we consider that, even in the experience of the best men, of the largest clinical experience, and especially where this disease is secondary, following diphtheria, whooping-cough or measles, 70 per cent. of these cases die, we begin to realize the gravity of the condition.

As to the management of this condition, we have no specifics. That, perhaps, is the reason why so many different plans of treatment are advocated by different observers. The treatment is essentially and necessarily symptomatic, but the earlier we begin on these symptoms the less likely we are to have complications and the more likely we are to bring the case to a good termination. All we can hope to do is to build up the patient's vitality and increase Nature's fighting forces. I have not much faith in local applica-

tions. I do believe, however, that a cotton-bating jacket is a very desirable thing. I do not think much is to be gained from expectorant mixtures, as these are generally understood. As stated by most of the text-books, they are prone to disturb the stomach. That is true, but the chief objection is that these children do not expectorate; therefore, remedies which are supposed to assist expectoration are really of no use. If the remedy is one that will keep up nutrition or act as a cardiac stimulant, its use may be beneficial, but the ordinary expectorant, such as would be suitable for an adult or a child along in its teens, is contraindicated.

I believe the remedies upon which we must depend in this condition, are apomorphia, strychnia and alcohol in some form, either brandy or good whiskey, mixed with water. Apomorphia, although it has never, for some reason, crept into many of the text-books, is a most excellent remedy, for the reason that, in small doses frequently repeated, it tends to exert a systemic influence, thinning the secretion and thus keeping the weakened air-cells from sticking together. By thinning the secretion it enables the blood to take it up. These children do not expectorate; if they do get up any of the secretion they swallow it; therefore, it must be taken care of by the general blood stream, and to assist this the use of apomorphia should be begun early, as soon as we are sure of the diagnosis, as evidenced by a rise in temperature, rapid respiration; the child is sleepy and drowsy and ready to go to bed, and pays no attention to its playthings.

Strychnia is a good respiratory stimulant and, in addition, improves the nervous and cardiovascular tone to a certain extent. Alcohol stimulation, I believe, is a good thing. It not only keeps up the nutrition, but also tends to help the blood vessels along. Its use should be begun early.

In the later stage of the disease it is simply a question of fighting it symptomatically. Sometimes the patient will be benefited by minute doses of adrenalin, intravenously, when the case is apparently slipping beyond control. Digitalin (Hoffman-Laitche) is the best form of digitalis, in my opinion.

An interesting feature of the case reported by Dr. Read is the hemorrhage which occurred. I have never seen anything like the amount of hemorrhage he mentioned. I have once or twice seen a little hemorrhage from what I took to be a congested condition of the stomach in conjunction with the harassing character of the cough, but I have never seen a rupture of a large vessel.

The general management of the case as outlined by Dr. Read is about all that could be desired. In these cases we must depend upon Nature rather than upon the specific effect of any of the medicinal agents that we have at our command.

A Voice: Do you believe that the enlargement of the liver in the case reported could have had

any connection with the haematemesis, possibly by damming back the blood in the gastric veins?

W. A. Jenkins: I have just stated that I believe the hemorrhage to have been due to a passive congestion. It could not have been otherwise. It is not probable that an ulcer, as we understand ulcer in an adult, could have been present. In my opinion it must have been due to passive congestion resulting in rupture of one of the smaller vessels.

So far as the liver is concerned, in any infant or young child the liver occupies almost two-thirds of the abdomen, and in older children the large size of the liver in proportion to the other organs persists for many years. The liver does not get down to the important work that it performs in adult life for a long time. Many times, especially in rachitic children, the liver remains enlarged and the portal circulation is dammed back considerably. Generally, the rachitic condition and malnutrition produce practically as much of the stomach disturbance as the enlargement of the liver does.

Gaylord C. Hall: I will not presume to discuss this case from the standpoint of bronchial pneumonia, but I wish to say a few words in regard to the hemorrhage. I have seen a number of cases in infants where there was considerable hemorrhage from the naso-pharynx, explained presumably by the presence of engorged adenoid tissue which had undergone necrosis. I saw a case recently at the Children's Hospital, in which considerable quantities of blood were vomited as the result of a tonsillar condition, which the doctor spoke of as being present in his case. The hemorrhage did not come from the tonsil, but from congestion and subsequent rupture of the large vessels in the naso-pharynx, and I would suggest this as a possible cause of the hemorrhage in the case reported by Dr. Read.

W. Ed Grant: Dr. Jenkins suggested that alcohol is a useful remedy in these cases. I have always been in the habit of giving alcohol in these cases, feeling that it was useful in supporting the heart and as a general stimulant, but, in view of the fact, which has been demonstrated, that it tends to lower the germicidal power of the white blood cells, upon which we must depend to remove the cause of these infectious diseases, I question whether we should continue its use. Strychnia will support the heart, and does not interfere with the germicidal power of the blood. I am beginning to doubt the wisdom of giving alcohol in these cases because of its effect upon bacteriocidal properties of the blood.

C. G. Forsee: I think one means at our command which is sadly neglected, and especially in the treatment of broncho-pneumonia, is oxygen. When the patient begins to get blue around the finger-nails, there is nothing from which you can obtain such quick results as from oxygen. It acts just as well in broncho-pneumonia as in patients who have over-anesthetized. In my opinion,

oxygen, some form of morphine and alcohol are essentials in the treatment.

H. L. Read, (Closing): In regard to the hemorrhage, I will say that I was sitting by the bedside when this patient raised up and vomited the blood, and the first movement from his bowels was just as dark and bloody as it could be.

As to the use of alcohol, I carried this patient along first on strychnin and digitalin, and, later, on brandy.

A CASE OF LUPUS VULGARIS.

By M. L. Ravitch, Louisville.

Mrs. L. L., age 52; met with an accident last August, falling forward on her nose, bruising it. Oedema developed. The inflammation did not subside but crept on until the whole nose was involved. The color became a dull red. Very soon, papules, nodules and flat infiltrations developed. No doubt there must have been a staphylococcal infection which caused the destruction of the tissue, before the lupoid nodules made their appearance.

When the case came under my observation two weeks ago, I noticed several papules which were softer than the surrounding skin. Their soft consistency and brownish red color have caused Hutcheson to liken it to "apple jelly." Central involution and ulceration of patches have occurred, leaving scarred areas. Diascopic examination showed lupus nodules.

In this case, exuberant ulceration sprang up and tissue hypertrophied. There has developed a papillomatous outgrowth which is a sign that inoculation from without was the mode of infection.

As the patient brought suit against the city, I unknowingly and unwillingly became a witness for the plaintiff. I don't care what the outcome of the law suit may be, I will only try to treat the patient to the best of my knowledge and testify to what I have found. A tuberculin test (Moro's) was made and the patient reacted to it. My prognosis in this case is not a favorable one as the mixed infection is too extensive.

DISCUSSION.

Dunning S. Wilson: My experience in this class of cases has possibly not been as large as that of Dr. Ravitch; but, while I will not say that X-ray treatment of this condition is entirely worthless, it is undoubtedly much more painful than treatment with tuberculin, both subcutaneously and applied to the site of the lesion, as has been advocated by so many men. I recall one case that came under my observation with a tuberculous skin lesion that extended all over the shoulder. This woman had suffered intense agony under X-ray treatment with practically no results, and yet under tuberculin treatment

she showed remarkable improvement. While in this case sufficient time has not elapsed to permit of a positive statement as to the ultimate outcome, I certainly feel that we have by no means exhausted our resources in these cases until tuberculin treatment has been given a thorough trial. X-ray treatment is very painful, and I have seen no positive results from it.

J. Hunter Peak: Many years ago the late Dr. Holloway had a case which he was fond of exhibiting in his clinics as a case of typical tuberculous lesions of the hand and arm. Later, some 10 or 12 years ago I was called to treat that woman for erysipelas in that hand and arm. I think it was one of the worst cases of erysipelas I ever saw for the patient to get well. It extended over the whole arm and most of the right side of the body, and when that woman finally recovered from the erysipelas condition, the tuberculous lesions had disappeared and she has remained well ever since.

M. L. Ravitch, (Closing): In regard to tuberculin treatment, that is all right if the condition is due to joint tuberculosis. This patient gave a history of having enjoyed good health up to the time she was injured. Many of the most prominent skin specialists in the country have used tuberculin in the treatment of this condition during the past five years, but none of them, so far as I know, have reported my marked degree of success with it. On the other hand, many cases have been reported in which splendid results have been obtained from X-ray treatment. Dr. Wilson says that the X-rays are very painful. That has not been my experience, and I have obtained some excellent results in the treatment of skin lesions by means of the X-rays.

Laparotomy for Placenta Previa.—In the first two of the three cases reported the patients were elderly primiparae and after considerable hemorrhage the child was removed by Cesarean section and both mother and children were dismissed in good condition, with nothing to interfere with future pregnancies. The third patient was a woman of 40 at term with her eighth pregnancy, faint from excessive losses of blood, the fetus dead. The abdomen was opened and the uterine arteries ligated and ligaments tied off. The pulse began to improve at once, and supravaginal amputation of the unopened uterus was rapidly done and the patient was replaced in a warm bed, the pelvis raised.

Myomas and the Circulation.—Patta and Decio injected dogs with extracts from nine myomas and also extract of uterus tissue. The myoma extract seemed to have a pronounced action on the circulation in some respects, inducing bradycardia, palpitation and asthma in the animals, but no influence on the blood-pressure could be detected unless possibly a depressing influence.

MEDICAL PROGRESS

DEPARTMENT OF ORTHOPEDIC SURGERY.

Edited by WILLIAM O. HUMPHREY, Louisville.

1. THE TREATMENT OF TUBERCULOUS JOINT DISEASE WITH CARL SPENGLER'S "I K" SERUM.—*Amer. Jour. Orthopedic Surgery*, Feb. 1912.—The author's report (preliminary) Seven cases treated with I K (Immune Körper) serum and believe it has some curative properties. All their cases show positive and immediate constitutional improvement, with a marked diminution, after a few doses, of the discharge from sinuses, and a magic-like disappearance of pain after first dose. Two patients had bradycardia, during treatment and one had severe lytic distress.

Small doses at intervals of seven or eight days proved more satisfactory than the more frequent dosage. Disturbance of patient's comfort, guide for reduction of dosage. The posterior, extensor aspect of forearm, the least painful site for injection.

Tincture of digitalis or strophanthus should be administered throughout treatment. Jumping to ten fold dosage is both dangerous and unnecessary. Treatment should be carried over a period of six to nine months. Tuberculous patients with severe or advanced organic heart lesions should not be treated with I. K. until entire compensation has been restored, and then only while in bed.

II. CONSERVATIVE TREATMENT OF HIP-JOINT DISEASE.—*Amer. Jour. Orthopedic Surgery*, Feb. 1912.—Treatment should include improved hygiene in the broadest sense, residence at the sea shore, forced feeding as described by Dr. S. Solis Cohen, of Philadelphia and which consist of the use of rich and nutritious food in great abundance, sunlight and fresh air and the use of a new splint which is most beneficial and curative in the treatment of this condition. The exclusive use of milk and eggs is not commended. The splint as described by Young consists of a perforated hard leather body portion, extending from axilla to the lower third of the thigh on affected side, a perforated hard leather portion over the calf, and another perforated hard leather portion fitted to the foot, these parts being connected together by a sliding bar fixed with two screws and each portion reinforced by steel bands. The brace is put on with the patient lying down, first lacing the body portion and fastening the perineal straps, next pulling the foot down in the shoe, after which the thigh and calf portions are adjusted. A cork patton 2 1-2 inches high is worn on the sound foot and crutches are used. This brace affords besides the two universal-

ly recognized principles in the treatment of hip-joint disease—traction and fixation, fixation of the foot latterly to which the author attributes the enhanced value of the new splint.

III. AN OPERATION FOR CLAWED TOES.—*Amer. Jour. Orthopedic Surgery*, Feb. 1912.—The operation as done by Phil Hoffman since March, 1908, is excision of the heads and if necessary of parts of the necks of the metatarsal bones of all the affected toes, through a single transverse curved plantar incision just behind the web of the toes. After turning the flap down, the flexor tendons are carefully pulled aside exposing the metatarsal heads. The bones are divided with either a straight bone forceps or a narrow chisel, and a sufficient amount removed to relax all contracted tissues and to permit free motion between the phalangeal bases and the resulting metatarsal stumps without crowding one against the other.

The wound is closed with catgut and a simple aseptic dressing applied without a splint. Tenotomy of contracted tendons is unnecessary. The author has found the affection rather a common one, and his end results favorable, affording freely movable and serviceable joints in feet that are painless, and functionally, surprisingly good.

IV. BASIC CAUSE OF FLATFOOT.—*Medical Record*, May 11, 1912.—Having failed to find a logical reason in the Text Books why flatfoot should be so prevalent Mitchell contends that the basic cause of flatfoot is a slow absorption of calcium salts from the bones of the foot. Gravity directs a relatively larger amount of blood with greater force to the foot than to any other part of the body. This would subject the foot to increased absorption of salts. Further, the muscles of the leg, with intermittent activity, impel a vigorous current, which in turn induces an active circulation of the blood, the more active its powers of absorption. As all absorption varies directly as the motion, so all calcium absorption must vary directly as the motion, and Mitchell advances the theory that a rigid gastrocnemius is nature's attempt to limit calcium absorption. If the basic cause of flatfoot be lime absorption, then its consideration teaches that a cure in the late stage is impossible. A simple means of prevention is advised. Such a method would require a diet rich in lime salts, as contained in milk, eggs, fruits and vegetables; the avoidance of decalcifying acid food, and the drinking of water known to contain the physiologic minerals.

V. INDICATIONS FOR SURGICAL INTERFERENCE IN TUBERCULOUS JOINT DISEASE IN CHILDREN.—A. H. Tubby (*Lancet*, Jan. 6, 1912, says the balance of experience gained in the

treatment during the last decade shows that unquestionably conservative treatment is better in childhood. Time is saved, the resultant deformity is diminished, and there is less risk of generalized tuberculosis when treatment is non-operative. When abscess is present its sack should neither be allowed to become adherent to the skin, nor to open spontaneously, as an opening often forms in an undesirable position and is liable to septic infection. When pus continually reforms it is generally due to extension of bone disease or to loose sequestra, which can be ascertained by means of Roentgen rays.

It is doubtful whether operative results are better in cases of tuberculosis of the hip-joint, than those obtained by rest and splints. The safest course in tuberculosis of the knee-joint is to give a long and patient trial to conservative treatment, and, if this fails, to give up all hopes of a movable joint and do a formal excision, having regard to the epiphyseal lines, and endeavor to secure sound bony ankylosis and a straight limb.

Even in dealing with the ankle and foot, statistics show the best results to be obtained by rest and conservative treatment. Erasion frequently proves to be better than a formal excision when conservative treatment fails.

VI. TREATMENT OF RESIDUAL PARALYSIS OF ANTERIOR POLIOMYELITIS.—B. Bartow and W. W. Blummer, *Bull. Med. Jour.*, 1912, LXVII, 310. The writers favor the replacement of weak ligaments with artificial ligaments of silk and described the method of inserting the artificial ligament. The silk used for the artificial ligament was the parafined silk tendon prepared in the manner suggested by Lange for tendon elongation. Number 20 Corticelli twisted silk was the size used in the earlier operations for both knee and ankle. Roughly estimated, after the operation, the tensile strength of the artificial ligament is sufficient to sustain a direct strain of 125 pounds. For the fixation of the feet in very young children, number 14 size is used with satisfactory results, and greater ease of introduction. No tendency has thus far been shown for the silk ligaments to cut their way out of the joint, or cause sloughing of the tissues in contact with them. They become looser, however, with time and use of the limb.

As they cannot stretch the chief source of looseness is probably from absorption of the bone in which they are buried at points where tension is greatest.

Identity of Brill's Disease with Typhus.—Cheimisse presents and reviews the date that have accumulated on this subject, endorsing the identity of these two diseases in accordance with the editorial in *The Journal A. M. A.*, Feb. 10, 1912, p. 414.

JEFFERSON COUNTY MEDICAL MILK COMMISSION NEWS.

The Medical Milk Commission of the Jefferson County Medical Society has asked for and has been granted the privilege by the Editorial Committee of the *Jefferson County number of the KENTUCKY MEDICAL JOURNAL* of contributing once a month some report of their work, so as to keep the profession in touch with their activities and to obtain their assistance in spreading the gospel of clean milk.

The last annual meeting of the American Association of Medical Milk Commissioners held in Louisville at the Seelbach Hotel adopted a manual of working methods and standards which sets the goal toward which all commissions are striving. We wish to assure the profession that the Jefferson County Medical Milk Commission is trying at all times to keep the milk, certified to by it, up to the high standard set by the American Association. In this connection it might be of interest to know that at the recent meeting in Louisville the representative of the Bureau of Animal Industry of the Federal Government, announced that one of the dairymen, certified to by our commission, received the first prize for the best milk and cream entered at the recent milk show in Chicago. He stated that these were the best samples of milk and cream which had ever been submitted in a milk contest.

It is the desire of the Jefferson County Commission to assist the profession generally to elevate the standard of market milk and to that end suggests that all County Medical Societies appoint Milk Committees with the primary purpose of elevating the standard of the general milk supply in their community which will finally lead to the creation of Milk Commissions which can begin certification of milk when the community has been educated to the importance of having this supply and the dairymen to the point of producing it. It is the hope of the local commission that finally enough medical milk commissions will be formed in the State to warrant the organization of a State Association of Medical Milk Commissions, such as exists in the state of California. By such an organization the distribution of clean milk propaganda will be facilitated and mutual assistance can be had in the enforcement of the rules and regulations laid down in the manual of working methods and standards by the American Association.

The commission annually enforces the tuberculin test of all cows in certified herds and this work will shortly be done under the supervision of the Commission.

CAUSES AND TREATMENT OF CONVULSIONS IN INFANCY AND CHILDHOOD.*

By E. L. GOWDY, Campbellsville.

It is with hesitation that I bring before you a subject so familiar, and the limits of discussion of which are so narrow, as that of convulsions in infancy and childhood, because probably in no other condition is there a symptom of a disease where a routine treatment is more universally and successfully employed. While the progress in scientific infant feeding, in serum therapy, and the treatment of diseases of childhood in general have made most wonderful strides in the last few years, the text-books of twenty years ago contain essentially the same line of treatment in convulsions that is advised by the text-books of to-day. The best reason for this is that, in most cases, the means recommended are successful—they stop the spasms; and every doctor, especially the young doctor, knows there is no way that he can more quickly earn the sincere gratitude and friendship of a family and feel so thoroughly satisfied with himself than to speedily and successfully relieve an infant with convulsions.

While numbing the child's brain with morphine and poisoning its blood with chloroform will usually terminate, or rather hold in check an attack, I am convinced that these means lead many doctors to a feeling of false security, and they fail to fully investigate the problem that presents itself to them. There is no condition met that requires profounder thought or more careful study than the cause of convulsions in children: for, while one convulsion rarely terminates fatally, even seriously, the failure to fully appreciate the cause may lead to subsequent spasms that will leave the little sufferer a helpless paralytic or an idiot.

There are almost as many classifications of convulsions as there are writers on the subject, but as this paper is intended primarily as a discussion of convulsions in general, I shall consider: (1) Predisposing causes and (2) Exciting and reflex causes. It does not come within the scope of this paper to discuss those convulsions that are brought about by intrauterine affections, injuries at birth, and causes that operate soon after birth. These convulsions, which are properly classified as eclampsia neonatorum, usually come within the first three months of life and deserve separate consideration.

Although rickets is less common in the country than in cities, there is no doubt but that it is the most prominent predisposing fac-

tor in the production of convulsions. One writer has stated that 40 per cent. to 50 per cent. of children subject to convulsions are rachitic, but this estimate is rather high. Rickets, is a disturbance of metabolism, and the sensitive nervous system that accompanies these nutritional diseases makes the child susceptible to the great number of reflex causes, including worms, burns, wounds, dentition, adenoids and middle ear disease that play a part in the cause of convulsions. Often a case of hitherto unsuspected rickets can be diagnosed by a close investigation of one of the more direct or exciting factors of an attack.

Some authorities have observed that a disturbance of secretion of some of the ductless glands, especially the thymus, is prominent as a cause of convulsions, but as there is usually more or less of a disturbance of secretion of these glands in rachitic children, it is, after all, probable that rickets, in the majority of instances, is the leading predisposing cause in convulsions attributed to this condition.

It is in the treatment of convulsions due to rickets that the physician is put to the severest test. As one attack predisposes to another, unless satisfactory treatment is instituted, we are likely to have an epileptic or a weakling before the child is many months old, but, unfortunately, there is no immediately satisfactory treatment of rickets. The "old reliable" phosphorus-cod-liver oil treatment has proven to be a myth. It has been shown that, as a rule, it is not a lack of calcium salts in the food that produces rickets, but an inability to properly assimilate those which are supplied. It is impossible to produce a case of true rachitis by withdrawing calcium from the food.

While the pathological changes in rickets are well understood, the cause of this disease, so harmless in itself, yet often so disastrous in its results, is not even known. Hanseman considered it resulted from too little air and exercise, as children born in the fall and living in bad quarters are more likely to develop rickets than those born in the spring and living in similar surroundings. Sittler believes it a disturbance of digestion caused by unhygienic surroundings. Czerny defines rickets as a true constitutional anomaly. Elbettez observed that rickets is a comparatively rare disease in the tropics, and increased, irrespective of race, the greater the distance from the equator, hence he concludes rickets is caused by lack of light. J. Koch and Kassowitz believe that rickets is caused by changes in the parts due to bacterial infection. In America, it is a rule to consider rickets as a result of unsuitable food. This is especially true when children develop rickets after a prolonged diet of condensed milk. But as condensed milk is usually the last resort in artificially fed

*Read before the Muldraugh Hill Medical Society.

babies—the food the doctor recommends when all else fails—we have a weakened subject to begin with who might develop rickets even on the most approved diet. Although the formula of condensed milk seems theoretically impossible, I believe it bears more than its share of blame in the production of rickets.

I have dwelt at some length on rickets as a predisposing cause, because, as I have before intimated, it is this class of cases that is likely to give us the most trouble, and every effort should be made to improve the rachitic condition. From a study of these latest theories as to the cause of the disease, it seems that the best treatment is hygienic, as little dependence can be put in drugs to bring about a removal of the condition.

The other great predisposing cause of convulsions, and one over which the doctor, as a rule, has little or no control, is nervous heredity. These children are usually born of syphilitics, alcoholic, hysterical, gouty or consumptive parents. There is no law that prevents these people from marrying. There is no law, and never will be, that separates a child from an actively tubercular parent. It is true that because of the extra care a tubercular parent sometimes gives his children, they are less likely to contract consumption, but, unfortunately the vast majority of consumptives do not realize the need of care till it is too late. And even the ordinarily careful sometimes grow careless, for consumption is indeed a disease where "death takes on the glow and hue of life" they think they are always getting better, and children continue to inherit weak resisting powers and die of tuberculosis.

A syphilitic or alcoholic inheritance is even worse than a tubercular one; for in these conditions the weakened nervous state is manifest from birth, and, if convulsions set in, the prognosis is always grave. Under this head may be mentioned the observation that children who have one parent young and the other old, especially if the father is old, show less resisting powers than children the ages of whose parents are more nearly equal.

On the other hand, there are children born of perfectly healthy parents who may acquire a nervous state that is just as strong a predisposing cause of convulsions as a neurotic inheritance. Of course, the pregnant woman, for obvious reasons, should be preserved from undue excitement or shock, but so long as she eats plenty, has plenty of fresh air, sleeps well and knows how to take any sort of systematic care of herself, great anxiety or sorrow are not likely to have any special effect on the nervous system of the child. It is after birth that the overzealous mother or nurse is likely to pave the way to more or less direful results. It does not take the spoiled baby

long to become a "bundle of nerves," the mother becomes frantic when the child is seized with a convulsion because of some slight irritant, and never realizes that she is as much to blame for the attack as anything else.

There is another class of mothers, less indulgent, but whose methods of raising the child are just as disastrous. I refer to those mothers who have a fixed schedule by which they raise their babies. Nearly all babies brought up according to a strict formula are nervous. The good effect of proper clothing and proper room temperature is more than overcome by the interrupted sleep and interrupted play these babies have to endure.

In discussing the exciting causes, I shall first consider those that come during the pre-dentition period. Excluding gross brain lesions and organic lesions of the heart, liver and stomach, the most common cause of pre-dentition convulsions is dietetic errors. In the majority of instances these are brought about by disturbance of lactation in the mother; but, shameful to say, we still have that class of the ignorant and unenlightened who persist in the disgusting and murderous practice of chewing food and placing it in the baby's mouth. The selfish mother or nurse gets the nutrition out of the meat, and the baby gets the tough indigestible fiber, and syphilis, tuberclosis, and convulsions. Of course, the various reflex causes, such as eye disorders, anemia, genital defects, nephritis, and the onset of acute diseases may play a part in the production of convulsions during this period, but the vast majority may be traced to some error in feeding.

The exanthemata are rarely ushered in by convulsions, and a most careful examination should be made before ascribing a convulsion to the onset of an acute disease. In cases of doubt, it is well to take the rectal temperature in convulsions that happen during any period of a child's life. Those denoting infectious diseases will usually show a high temperature, although the skin may be cool; those accompanying rickets, tetany and epilepsy are non-febrile or only slightly so.

Convulsions appearing between the period of primary and secondary dentition constitute the vast majority that come under the observation of the doctor. It is during the period of primary dentition that the so-called "teething convulsions" with their accompanying gastro-intestinal symptoms take place. The point to be borne in mind, however, is the fact that more often it is the intestinal involvement that is not only the cause of the convulsion, but of the condition of the gums as well. The practice of gum lancing is to be mentioned almost to be condemned. While there are occasional instances where lancing may give great relief, the ma-

majority of tender, inflamed and swollen gums will yield very readily to a brisk calomel purge and absolute cleanliness about the mouth, a most excellent wash for this purpose being glycerine and water, to which chlorate of potash, about ten grain to the ounce, is added.

Normal teething is a practically painless process, and a child with a teething convulsion is likely to have another unless some error in diet is corrected and the stomach and bowels kept in good order. It should be remembered that earache in children will often bring about the same feverish, fretful symptoms, including spasms, that are attributed to teething, and in cases of doubtful etiology the ear should be examined as a possible source of the trouble.

Gastro-intestinal intoxication is undoubtedly the cause of the greatest number of convulsions, and, in my opinion, the intoxication that brings about a convulsion is usually bacterial in origin. The child suffering with an ordinary food intoxication with its dull, heavy, half-closed and drowsy eyes presents an entirely different picture from the pale, anxious, restless expression of a baby before it enters into a convulsion. Of course, simple food intoxication may become so deep that the poison will soadden the more or less undeveloped controlling centers of the baby's brain that they lose all power over the higher cortical centers and convulsions will follow. But, as a general thing, in patients presenting the dull, listless symptoms of simple food intoxication, the beginning of summer complaint, if convulsions develop at all, they are likely to come during a later stage of the disease.

TREATMENT.

While the treatment, usually prophylactic, has already been outlined under certain headings in this paper, the question remains: What is the best procedure when we are called to treat an attack? I know of no special objection to the mustard bath; but the best results obtained from its use is that it gives the excited parent something to do till the doctor arrives. Usually the disturbance of the infant in getting it disrobed, placed in the bath, and afterwards sponged and dried overcomes any beneficial effect the bath might have.

When the doctor arrives the little patient is usually comatose or has that weak, fretful cry, the precursor of another convulsion. If possible, the child should immediately be given a dose of castor oil, and the bowel washed out with salt solution. While we are preparing for this procedure, if we can assure ourselves that the convulsion is not due to the onset of an acute disease, an injection of bromide of soda and chloral should be left in the bowel.

Emetics, especially mustard, should never be used; the stomach tube is the only justifiable resource if the stomach has to be emptied.

If these means fail to arrest the spasms, our safest and surest remedy is the hypodermic administration of morphine. I am unable to see the advantage of the use of chloroform inhalations in these conditions; at best, they can only bring about a temporary cessation of the spasm, or rather cut short an attack already on, and I am not convinced that the use of chloroform is without danger. It relieves the attack at the expense of the respiratory tract and blood, and lessens that supply of oxygen that is so grateful to a patient in this condition. In my opinion, the only indication for its use is in a quick succession of convulsions, when it may be used till the morphine has had time to take effect.

The dose should not be too small, for children with convulsions bear it unusually well. 1-30 to 1-20 of a grain may be given to a child six months old, but this dose should not be repeated within twelve hours. Hydrobromide of hyosine is a favorite with English physicians, but I have never seen it used.

If these means fail, the next resort is blood-letting. The withdrawing of blood from an infant is a heroic measure, but it is often the means of saving life. Two or three ounces of normal saline should be injected into the soft tissues of the child, and one-half to one and one-half ounces of blood withdrawn, according to the age and condition of the patient.

Oxygen by inhalation is of unquestioned value, but its use at present is not practical to the average general practitioner.

The after treatment of an attack is to pay strict attention to diet and to keep the child quiet. For the first forty-eight hours, it is best, in most cases, to keep the child under the influence of a mild sedative, bromide of soda combined with calomel for the first twelve to twenty-four hours and adrenalin for the next day or two being excellent for this purpose. Any reflex source of irritation should, of course, be corrected as soon as the child's general condition will permit.

Formation of Artificial Vagina by Intestinal Implantation.

—De Bovis discusses the various methods of forming a vagina out of a loop of intestine, stating that it has been done in eleven cases and that the functional outcome was satisfactory in all. Dreyfus has recently reported utilizing a hernial sac for the purpose, and Ott and Stoeckel made a vagina out of peritoneum, but the operation was not a success in either instance. (Stoeckel's success with a loop of intestine was recently described in *The Journal A. M. A.*, Feb. 10, 1912, p. 451.)

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EDITORIAL

THE NEW DRINKING CUP LAW.

Mainly through the influence of the State Federation of Women's Clubs, and under the splendid leadership of Hon. W. E. Dowling, Senator from the Anderson-Franklin-Mercer district, the last General Assembly passed the following bill and it was promptly approved by the Governor and is now effective all over the State:

AN ACT PROHIBITING THE USE OF PUBLIC DRINKING CUPS.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

The use of the common drinking cup on railroad trains, and in railroad stations, public hotels, boarding houses, restaurants, or steamboats, in stores or other frequented places in Kentucky, is hereby prohibited. No person or corporation in charge of the aforesaid places, and no person or corporation shall permit on said railroad train, in railroad stations, public hotels, boarding houses, restaurants, steamboats, stores, or any publicly frequented place in Kentucky, the use of the drinking cup in common. There must also be posted in a conspicuous place, by the drinking water contained in any of the places mentioned in foregoing paragraph, a warning card-board, with the above printed thereon in large letters, so they can be easily read. Any person or corporation violating the provision of this act shall, upon conviction, be fined in any sum not less than one dollar, and not more than ten dollars, and each day's violation of any of the provisions of this act shall be considered a separate offense, punishable by fine in the amount named above.

All laws inconsistent with this act are hereby repealed.

Practically the same law is in operation in many other States and its proper enforcement will have great influence in the prevention of many of the common communicable diseases, and especially in the prevention of syphilis. The profession knows the importance of this precautionary measure as most other people cannot, and it should be enforced for all court houses, livery stables, stores, mines and other semi-public places equally with those named in the statute.

DR. RODMAN.

The only matter of regret in connection with the above name is that there are not more of them. The following clipping from Bardstown tells about the seventieth birthday of one of the youngest and most active members of the family. Dr. Hugh Rodman's whole life has been a credit to his profession, to Kentucky, and to himself. No man has contributed more towards producing ideal conditions amongst the practitioners of his own county:

"On Wednesday, May 22, Dr. Hugh Rodman, of Bardstown, gave a delightful six o'clock birthday dinner to all the other physicians in town.

"On this day Dr. Rodman had reached the venerable age of three score and ten years.

"It has been some time since the Doctor began the laborious journey of life, and his pathway, like all others, no doubt, has led him over more rocks and crags than upon grassy lawns and flowery fields, but he has passed along the rugged road with an unfaltering nerve, strength, bravery and dexterity.

"Life is a grand mission. We are placed here to make the world better, to lift it up

to higher levels of enjoyment and progress to make the hearts and homes brighter and happier, by devoting to our fellowmen our best thoughts, influences and activities, and in this respect the Doctor has fulfilled the Master's will to the best of his ability.

"Early in life Dr. Rodman chose a high, noble calling as his profession, and by necessity being brought into such close touch with sickness, pain and sorrow, the splendid qualities of kindness, sympathy and charity were fully developed in his nature.

"Dr. Rodman is at present President of the Board of Health of Nelson County. He has always been a successful physician, having read, studied and attended all associations relating to his profession, thereby keeping abreast of the times.

"If it is a law of our intellectual and moral enjoyment to promote our own happiness in proportion as we promote the happiness of others, then we know the Doctor has enjoyed a good deal of happiness in his life, and the friends of the good Doctor are better too, for having him pass our way and we heartily wish that his life will be prolonged for many years to come and that he will have the happiness of being the host at many more pleasant birthday dinners.

"The Scripture saith three score and ten
Is a good old age for the most of men;
But once in a while, by reason of strength,
The days of a man reach greater length.

"And the Scripture saith where two or three,
Concerning aught that's good, agree—
And send a fervent prayer to heaven
A certain answer will be given.

"So, brother, at your festal board
With appetizing dainties stored,
While we partake of toothsome dishes,
We offer you our heartfelt wishes—

"That, in the coming years, Time's sands
May run as smoothly, and Time's hands
Be laid as gently on your head,
As in the years already sped!

"May happiness and vigor last
Until, the eightieth mile-stone passed,
You enter on another score;
And even then—

May
Heaven
Send
More!"

FAYETTE COUNTY.

The Fayette County Medical Society is receiving congratulations upon a membership of 66 with two applications pending. This is the largest membership in the history of Fayette County and is a direct return for the splendid work both along the general lines of scientific medicine and, also, as regards the medical society as the guardian of public health. The Fayette County Medical Society is one of the very strongest in Kentucky and the recent articles contributed to this JOURNAL by its membership shows that its very effective secretary, Dr. L. C. Redmon, is the right man in the right place.

THE WHITE MAN IN THE TROPICS.

During the past four years there has taken place in the medical Journals of this country more or less of a discussion concerning the action of tropical sunlight upon the white man. The general consensus of opinion has been adverse. In a recent article in the *Popular Science Monthly* (June), Dr. Paul T. Freer, whose untimely death occurred a short time ago, contributes an article of considerable interest, under the title of "Tropical Sunlight." This article is written in a scientific and temperate manner, free from anything like partisanship, and endeavors to consider the whole question therein involved. We read: "The races of people native to the tropical zones have no knowledge of bacteriology and pathology, which would enable them to understand the measures to be taken to avoid infections and other diseases, whereas they live in regions where the absence of a pronounced winter is favorable to the rich development of microscopical life. As a consequence, many of the ill effects which are attributed to sunlight, may, in reality be due to entirely different causes. * * * Another factor influencing local conditions may be the color of the soil, and the resulting modification of the intensity of the heat rays coming from it, because the radiation from the soil is of importance. * * * Prevailing winds may so modify the climate of the region that during the night the temperature may correspond to those found in places more favorably placed. * * * The general trend of discussion in the literature has been that the rays of the sun, lying in the region of the spectrum, comprising the violet and ultra-violet are of the greatest importance in determining the influence of insolation upon the human beings and these rays have a special, though undeserved, designation as actinic rays."

Many experiments were performed, the most interesting being those pertaining to monkeys and human beings. We quote,

"Monkeys are naturally at home in the tropics and we should suppose that they would best be able to withstand the effect of sunlight. They have a system of sweat glands, but this is not so highly organized as it is in man, so that their physical heat regulation is brought about not only by evaporation of sweat, but also to a very great extent by water evaporated from the lungs and mouth through increased respiration." He found that exposure to sunlight rapidly killed the monkeys but that even the slightest shade by an umbrella or a small piece of board would produce entirely different results. If the monkey was exposed to the direct sunlight but the excessive heat conducted away by a brisk current of air from a fan, the same results were obtained as if the monkey was shaded. Thus, it would seem that the untoward effects were due not to the ultraviolet, but to the heat rays.

"Experiments on man have shown that the ultraviolet rays are easily guarded against by shade or even by a white cotton shirt; the heat rays not." Investigating the White, Malay and Negro races, the "comparison showed but little difference between the white and the Malay, the difference, if any being in favor of the latter, but a negro, in a series of observations, exposed to the sun at the same time as a blond European and a brown Igorot, showed a higher skin temperature by 1.45 degrees than the Caucasian. At the end of the experiment the final temperatures were decidedly against the negro, slightly against the Tagalog, and in favor of the white skin. Therefore, so far as they have gone, our experiments seem to show, as regards rise in temperature upon exposure to the sun, that the white and brown skins are about equal, with a slight factor in favor of the white, but that in the case of the very dark-skinned negro the temperature, on exposure, reaches a decidedly higher point than it does with either of the others. The dark skin of the negro obviously will absorb heat more readily than the lighter one of the European, and also will radiate more readily, the heat taken up on the sunny side being rapidly lost on the shady one; but this balance evidently results in a greater rise of temperature for the negro than for the white man." In a number of experiments made with white, gray and black rabbits, the conclusion was reached that the darker the coat, the greater the heat absorption and the more apparent do the effects of insulation become. These experiments undoubtedly show what long practical experience had taught, that the whiter the clothing the better it is adapted for protection against sunlight and that even in the tropics, if care is taken to seek the shade, no untoward effects can be observed. Chamberlain found

also that even after three years' residence in the Philippines the blood pressure did not tend to increase or decrease.

Of the effects of ions in the air and the total ionization brought about by radioactivity, may have a considerable influence in controlling the electro and other meteorological phenomena, and work is now being conducted along these lines.

It would thus seem that the sensible solution of avoidance of injury to health in the tropics was not one of an avoidance of tropical sunlight, but that the maintenance of health within these regions really depend upon the intelligent and rational observation of hygienic laws, both as regards food and dress; the proper kind, character and color of the clothing and the strict avoidance of all alcoholic beverages, tainted and impure water, together with the strict elimination of such late and irregular hours as are conducive to general breakdown.

It would therefore seem that the advice to those entering the tropical regions would be about the same as that given to those who remain at home. After all the study of the result of experience, the addition of a good modicum of common sense and rational self-restraint will go far more toward the preservation of health in or out of the tropics than the mere avoidance of the much touted, and much dreaded, tropical sunshine.

SCIENTIFIC EDITORIALS.

SOMETHING ABOUT ADENOIDS.

At the meeting of the Otological Society of Denmark, December, 1911, Kiær cited some of the unusual conditions brought about by adenoid growths in children. He reported a case of recurrent epileptiform convulsions in a child of five years in which a cure (now four years) was brought about by removal of the adenoid growths. He further reports two cases of chorea which was cured by removal of adenoids.

Demetriades in a recent publication on the study of adenoids in Greece reports seven cases of epilepsy in 395 cases of adenoids all of which were cured by removal of adenoids. He also observed one case of chorea due to adenoids and cured by their removal.

Kiær pointed out the relation between adenoids and enuresis nocturna. Greenbech found that 14 per cent. of all children with adenoid were bed wetters, an observation corroborated by Myglin who found it in 23 per cent. of cases among the poor, but only 8 per cent. among the children brought up under better environments. Both of these authors report only 50 per cent. of cures of the enureses after the removal of the growths.

Instead, the morning following the experiment showed without exception a clear improvement over the work of the morning preceding the experiment.

As to the effect on muscular efficiency, *The Journal of the American Medical Association* says that the conclusion seems to be that caffeine enables the muscles to contract more vigorously without producing a secondary depression, so that the sum-total of muscular work which can be done by a man under caffeine is greater than that which can be done without it.

It is gratifying to have the effects of a drug like caffeine on the human system so investigated by rigorous scientific tests at the hands of capable investigators; only in this way will there be provided an adequate basis for correct conclusions as to the possible dangers of the use of caffeine-containing beverages.—(*Jour. A. M. A.*, March 16, 1912, p. 784).

REFORM IN MEDICINE.

NEWSPAPERS AND NOSTRUMS.—It appears to be impossible to so censor "patent-medicine" advertisements in newspapers so that all objectionable matter is rejected and only the unobjectionable retained. This for the reason that there is no such thing as an unobjectionable "patent-medicine" advertisement in a newspaper. In proof of this it is pointed out that the *Chicago Tribune*, whose advertising and editorial ethics are of a high order, carries many advertisements which promote remedies or treatments condemned in its editorial pages. Thus, while its "How to Keep Well" department warrants that it is not wise for the obese to reduce their weight more than ten or twenty pounds a year, an advertisement in the same issue for Majorie Hamilton's Obesity Cure claims that by its use fat may be made to vanish at the rate of one pound a day. A number of similar incongruities are discussed.—(*Jour. A. M. A.*, April 13, 1912, p. 1118.)

THORENEDIN SUBMITTED TO THE COUNCIL.

While acknowledging the correctness of the A. M. A. Chemical Laboratory analysis (*Jour. A. M. A.*, Mch. 9, 1912, p. 716), Squibb and Sons question the conclusions of Dr. Pusey that the product owes its virtues to sulphuric acid alone. The firm's claim that the product owes its virtues to the thorina which it contains was shown to the reports of physicians in whom it had confidence. The product has been submitted to the Council on Pharmacy and Chemistry and the firm agrees to discontinue the sale of Thorenedin if the Council confirms Dr. Pusey's findings.—(*Jour. A. M. A.*, April 13, 1912, p. 1121 and p. 1135).

"THERAPEUTIC EFFICIENCY."—The defenders of proprietary frauds of the so-called ethical variety make much of the fact that the rejection of a product by the Council on Pharmacy and Chemistry is no proof that the product itself has no therapeutic value. In reply it is pointed out that a mixture of quinin sulphate and starch while therapeutically efficient may yet be exploited so as to make the mixture a rank humbug or a vicious fraud.—(*Jour. A. M. A.*, April 13, 1912, p. 1121).

"PRESCRIPTION FAKES."—Oxzoil is a prescription fake advertised as a "wrinkle eradicator" and exploited by the To-Kalon Manufacturing Co., Syracuse, N. Y. According to the analysis of the state chemist of North Dakota it consists of zinc oxide 15.6 per cent., glycerin 16.7 per cent. and rose water 67.7 per cent. Saxolite is another "wrinkle eradicator" sold by the Dearborn Manufacturing Company, Chicago and according to the analysis of the state chemist of Kansas consists of alum 52 per cent. and epsom salts 48 per cent. Vilane Powder is sold as a "concentrated powerful antiseptic germicide and disinfectant" by the Blackburn Products Co., Dayton, Ohio. According to the analysis it is a mixture of washing soda, cooking soda, common salt, sodium salicylate and a little thymol.—(*Jour. A. M. A.*, April 13, 1912, p. 1132).

PROPHYLAXIS ENCOURAGED.—The Council on Pharmacy and Chemistry desires to encourage the use of reliable and efficient antiseptics, germicides and disinfectants by the public, so far as is compatible with safety. Accordingly it endorses the advertising to the public of such prescriptions accepted for inclusion with New and Nonofficial Remedies, provided that the advertising is limited to recommendations for use as a prophylactic application to superficial cuts and abrasions of the skin and to mucous surfaces except those of the eye and the gastro-intestinal and genito-urinary tracts.—(*Jour. A. M. A.*, April 13, 1912, p. 1132).

VALUE OF INORGANIC PHOSPHATE.—The wide-spread tendency to assume a better physiological utilization of certain inorganic elements when they are furnished in the form of organic combinations is gradually being shown to be without warrant. Thus while it was supposed that the body need of phosphorus could not be supplied by inorganic phosphates, hens and ducks have been shown to be capable of living and of laying eggs when their food contained phosphorus only in the inorganic form. This makes it probable that the advantage of giving phosphorus

in the form of lecithin or of glycerophosphates has been over-estimated.—(*Jour. A. M. A.*, April 20, 1912, p. 1198).

CANDY IN PENNSYLVANIA.—Good work is being done in Pennsylvania in the improvement of food products. A report of Charles H. LaWall shows that out of over 250 samples of cheap confectionery only 4 samples contained substances prohibited by law. Many specimens were found to be in a filthy condition and Professor LaWall recommends that manufacturers be compelled to wrap candies in paraffin paper.—(*Jour. A. M. A.*, April 20, 1912, p. 1202).

SANATOGEN.—According to advertisements, chiefly in the lay press, Sanatogen is "The Re-Creator of Lost Health," "a rebuilding food" and "revitalizes the overworked nervous system" and has many other properties which should make it an "elixir of life." Examination in the A. M. A. Chemical Laboratory shows it to be casein with a little glycerophosphate and therefore not greatly superior to cottage cheese. The outrageous claims made for it are condemned by such men as Lowells F. Barker, Frank Billings, Richard C. Cabot, Otto Folin, Lindvitz Hektoen, J. H. Long, Graham Lusk and H. Gideon Wells.—(*Jour. A. M. A.*, April 20, 1912, p. 1216).

VALUE OF FERMENTED MILKS.—P. G. Heinemann discusses the dietetic and therapeutic value of fermented milks prepared from commercial ferments. He concludes that sour milks as a part or rather than an addition to the diet probably are of value. If fermented milks are used then other food should be reduced on the basis of one pound of beef for every quart of milk consumed. There is much reason in the contention of Metchnikoff that premature senility can be prevented by regular diet, decrease of meat and regular consumption of Bulgarian sour milk, but it must not be thought that sour milk is a panacea and that by its use intestinal putrefaction will be reduced unless moderation in diet is practiced. The choice of a suitable ferment being of prime importance attention is called to those found efficient by the Council on Pharmacy and Chemistry and included in New and Nonofficial Remedies.—(*Jour. A. M. A.*, April 27, 1912, p. 1252).

ECKMAN'S ALTERNATIVE.—According to the analysis of the A. M. A. Chemical Laboratory Eckman's Alternative is a solution containing about 4 per cent. of calcium chloride, 10 to 15 per cent. alcohol and a little powdered cloves. This mixture is sold at \$2.00 for 8 ounces under the cruelly false claim that it will save

the tuberculous. The harm done by nostrums such as this lies in the abandonment of proper treatment by the patient and placing his dependence on the nostrum. Hoping against hope that in the "consumption cure" nostrum the secret has at last been wrested from nature by which the White Plague may be vanquished, the ever-optimistic consumptive sacrifices money which should go into good food, sacrifices all too precious time and, finally, life itself, and the consumption cure faker waxes rich in the toll of blood exacted from his credulous victims.—(*Jour. A. M. A.*, April 27, 1912, p. 1298).

ANTIDIABETICUM-BAUER.—The methods of advertising Antidiabeticum-Bauer have been shown up by the Society for the Suppression of Quackery. A suit by the proprietors of Antidiabeticum against the editor of the *Gesundheitslehrer* resulted in the defeat of the proprietary concern.—(*Jour. A. M. A.*, April 27, 1912, p. 1298).

PHENACETIN, SULPHONAL AND TRIONAL.—It is a generally recognized principle that the name used by a patentee to designate a patented article becomes the common name of such article after the patent has expired. This principle, and also the principle that a generic title—or common name—cannot be legally continued as a trademark have been generally recognized and are thoroughly well established by decisions of the courts. Accordingly the Council on Pharmacy and Chemistry has modified the descriptions for these articles in New and Nonofficial Remedies to indicate more clearly that the names "phenacetin," "sulphonal" and "trional" are synonymous for the official titles acetophenetidin, sulphonmethane and sulphonyl methane, respectively, and that the tests of identity and purity prescribed in the U. S. Pharmacopoeia should apply to the products under these titles.—(*Jour. A. M. A.*, April 27, 1912, p. 1298).

THE SARSAPARILLA ABSURDITY.—Sarsaparilla is an almost universal constituent of "blood purifiers" (whatever that may mean). Preparations of it are also official in our Pharmacopoeia. The fact that the drug is almost never used alone, but is almost always combined with something more active such as potassium iodid, shows that no one places any dependence on it. The Pharmacopoeia should be purged of sarsaparilla and its preparations, if it is to continue to enjoy its own self-respect.—(*Jour. A. M. A.*, May 4, 1912, p. 1356).

THERAPEUTIC RESEARCH.—Torold Sollmann, Chairman of the Committee on Therapeutic

Research of the Council on Pharmacy and Chemistry, discusses the need of more exact knowledge regarding the action of drugs. He outlines the plans whereby the Council hopes to aid therapeutic research. The following are some of the problems now being investigated: The clinical value of cardiovascular drugs, relative efficiency and toleration of natural and synthetic salicylates, duration of action and absorption of digitalis bodies, efficiency of intestinal antiseptics, therapeutics of phosphorus compounds, standardization of antiseptics and germicides, pharmacology of commercial valium preparations, effects of origin and impurities on toxicity of chloroform, and fate, efficiency and side actions of organic iodids.—(*Jour. A. M. A.*, May 4, 1912, p. 1390).

ALCOLA.—This "cure for drunkenness," consisting of three kinds of tablets, was examined in the Association Chemical Laboratory. Tablets No. 1 contain caffeine, about 1-4 grain and strychnine, nearly 1-50 grain. Tablets No. 2 contain strychnine, about 1-100 grain. Tablets No. 3 contain tartar emetic about 1-2 grain. While this is a full dose of tartar emetic, the directions suggest that as many as 3 or 4 tablets may be taken without harm. Alcola is exploited by the Physicians Cooperative Association of Chicago, which also sells Re-Ves-To claimed to cure rheumatism, kidney diseases, liver and bladder trouble.—(*Jour. A. M. A.*, May 4, 1912, p. 1390).

RELIABLE MEDICINES.

Neisser Bacterin Mixed, a gonococcus vaccine, each Cc. being said to contain approximately 100 millions each of killed *staphylococcus aureus*, *albus* and *citreus* and 50 million each of streptococci, *B. coli*, *B. pseudo-diphtheriae* and gonococci. It is marketed in packages of four 1 Cc. ampules. Also marketed in vials of 20 Cc. and in 4 syringes. Syringe A being of the composition mentioned above and constituting the initial dose, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Pneumo-Bacterin Mixed, a pneumococcus vaccine, each Cc. being said to contain 50 million killed pneumococci, 25 million killed streptococci and 50 million killed staphylococci. Also marketed in vials of 20 Cc. and in packages of 4 syringes. Syringe A being of the composition mentioned above and constituting the initial dose, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Scarlatina-Bacterin (Scarlet Fever Vaccine), a

streptococcus vaccine, consisting of a suspension of killed streptococci obtained from scarlet fever cases. Marketed in packages of 4 syringes, Syringe A containing 50 million killed streptococci, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amounts of bacteria contained in Syringe A. It is also marketed for immunizing purposes in packages containing 3 doses ready for use and sufficient to immunize 1 person. Also in 20 Cc. vials, sufficient for immunizing 6 persons. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Typho-Bacterin Immunizing, a typhoid vaccine, marketed in packages containing 3 syringes; the contents to be injected subcutaneously at intervals of ten days. Hospital-size contain 30 ampules, in sets of three. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Staphylo-Bacterin Mixed, a staphylococcus vaccine, composed of a suspension, each Cc. containing 25 million killed streptococci, 100 million killed staphylococci and 50 million killed *B. coli*. It is marketed in packages of four 1 Cc. ampules. Also in 20 Cc. vials and in packages of 4 syringes, Syringe A being of the composition given above, while Syringes B, C and D contain, respectively, 2, 4 and 8 times the amount of bacteria contained in Syringe A. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Von Pirquet Test for Tuberculosis consists of old tuberculin in capillary tubes. Each tube contains old tuberculin sufficient for one test. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Rabies vaccine is an antiviral vaccine prepared according to the method of Pasteur. It is a complete treatment, consisting of 25 doses, to be administered during 21 days. Each day's injection is shipped in a Caloris vacuum bottle. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Bass Test for Typhoid Fever is a modification of the method of Widal consisting of a suspension or emulsion of killed typhoid bacilli, a glass slide on which to mix the emulsion with suspected blood, a slide with dried smear of infected blood, a needle for pricking ear or finger to obtain suspected blood from the patient and a pipette for dropping typhoid emulsion and water on slide, previous to mixing with suspected blood. H. K. Mulford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

Mulford's Widal Test Outfit is a means of applying Borden's modification of Widal's Test. In this test the serum of the blood is mixed with salt solution and then with a suspension of killed typhoid bacilli, so as to bring the dilution up to 1 to 50. The typhoid bacilli, so shelluetainwoxy 1 to 50. The positive reaction is determined by noting that the clumps of bacteria sink to the bottom of the test tube and leave a limpid, clear

fluid above a small, white, flocculent mass of agglutinated bacilli. H. K. Mafford Co., Philadelphia.—(*Jour. A. M. A.*, Feb. 3, 1912, p. 343).

ORIGINAL ARTICLES

LONGEVITY—THE WISDOM OF AGE.*

By T. J. TOWNSEND, Owensboro.

Longevity is a very interesting problem, it is a question that involves mystery and is of the highest order of importance to the thoughtful and progressive physician, and the greater philosophers are awaiting with expectation and deep concern a better knowledge for securing the envied goal of human aspirations—how to live best—how to live long and how to keep contented.

The human race is omnivorous, its food supply exists abundantly in the animal and vegetable kingdom in every part of the world best suited for the habitation of man; its general character is homogenous and complex, its society, its morals, its physical development, its genius, its health and its longevity is measured by environments.

While presenting this interesting theme for your thoughtful consideration, I am trusting to your indulgence for offering allegoric methods to clearly define and simplify in a manner to avoid the friction of monotony, I shall only hope it may contain due proportions of digestible material, and that it may furnish originality of thought that is flavored to suit the taste of culture and refinement.

When we are persuaded to accept theories of heredity and longevity that are long passed down the line of descent, we are accepting the tenets and pursuing the traveled paths of the fathers; and when we strive to feel satisfied with their teachings and declarations—or shall have yielded unto them recognition, and that we are reconciled to the common verdict of expectancy as to the average life of man—and that we are pleased with any age that equals the years of our progenitors.

Is it right for others to do all of our thinking? They have failed to say enough on the most important question that concerns you or me. Those men lived longer than men are expected to live at the present time.

If we can engage the kind of philosophy that will guide us in living a profitable life unto ourselves and unto others, if we can make it possible to escape the feebleness, infirmities, and utter helplessness of old age, it shall be regarded in the light of an extraordinary performance; and the person who has accomplished it, is gifted with some kind of superior skill for doing so. They are govern-

ed by a principle they have adopted; a habit, or precedent transmitted without any reason, or explanation, or their longevity may be accounted for because they have inherited plain food habits, and the custom of prolonged slumber from even-fall till early dawn. Early to bed and early to rise, is a good maxim. When weary from age, early to bed, and late to rise, is the accepted logical remedy.

The pulsating funis that binds and conducts the blood stream of a child newly born, when tied and severed from its maternal attachment at the time of birth, is usually attended with a startling cry: it is the voice of independence that declares it a separate being from its mother—it is the yell of triumph and the scream of liberty—it is a holy reminder of sacred, and serious obligations that involves duty, reputation, effort, affection, fear and solicitude on the part of its parents.

It is the time of supreme joy in the married relations of life, when a young mother prints her first kiss of genuine unselfish love squarely on the face of her first-born, it is the time when she looks with eager searching eyes upon a new ideal of requited love, the envied goal of human aspirations; it is when her strongest emotions are first begun, and when two beings are engaged in making the most interesting chapter of biological existence, it is the baby's cry, its dimpled cheeks, its flitting smile, its flashing dawn of intelligence that quickens the tenderest emotions of maternal pride. She would mold its form into an object of beauty, hardness and health, she would quicken its brain with intelligence, and teach it useful accomplishments, she would crown its victories with honor, would extend its years on earth, would breathe into its soul the wisdom of age, and the philosophy of life.

The day when advancing science shall have acquired satisfactory knowledge of vital chemistry as it is naturally conducted in the laboratories of the human system, and the day when it shall obtain better acquaintance with those physiological laws that harmoniously conduct the functioning organs of life, or when we shall claim satisfactory evidence of the etiology of fatal and malignant disease; that day, a grateful world will learn to bless medical science. This question is often asked by our anxious patrons. Is medicine a perfect science? Why should it forever fail to relieve a cancer, and why is an advanced case of consumption condemned and consigned to a martyr's grave?

When medical skill is so perfected that it can reach forth and promptly restore normal conditions of the human system, when intelligence and reason have engaged the assistance of vital chemistry to restore the broken balance in human economy, when we learn through diet and its chemistry how to over-

*Read before the Daviess County Medical Society.

come the acid diathesis we will then know how to extend the age of man.

How to completely cure diathesis and maintain a cure, is doubtless one of the most difficult problems encountered in the early practice of medicine. Since the days of Hippocrates, the most enlightened physicians of the world have striven to know, but no specific is yet discovered.

The contending cause at the present age, is found largely in the infected foods of the sideboard, the cellar, and the refrigerator, the unwholesome food and excessive eating leads to mal-assimilation. Acidosis is the proximate and remote cause of all diseases in which diathesis is concerned, cachexy is the fiend incarnate that is opposed to longevity.

The time is, when the wisdom of old experience shall have the tenacity to rise from its ashes, and declare its presence in the vanguard of the profession; its silence, its conservatism, its modesty should be outspoken in the advancement of science.

The lives of ninety millions of American people in health and in disease are awaiting with expectations when the distinguished councils of medical men shall offer means of relief for cancer and tubercular fever—now known to be the most dreaded foes to humanity. With blind effort to overcome an obstacle of defeat, we are becoming the passive tools of experimentation. Let us rise in our dignity and ascertain the common cause of premature deaths. Acids of toxemias rob the home of its idols, few are permitted to reach old age.

When the ultimatum is disclosed as to the most common cause of rapid decay, that the underlying principle of disease is due to the presence of toxic acids, science will arise in the light of evolution and apply the proper remedy for maintaining the normal alkalinity of the blood; expectation will then be rewarded and the average age of mankind shall be extended many years.

Then fond parents may look with renewed hope on the babe in its swaddles, wrapped and tucked away in its little bed, the child will yield a permanent contribution of happiness, nor shall it be a torturing gift of anxiety, nor sorrow, nor misery, nor disease, nor shall the mother's ambition fail to provide for and safeguard it through the dangers that hasten death; she will grow it into usefulness, and grant it a long limit of fruitful years.

The field of human knowledge is unlimited, it is beyond the acquirements of any one man, it is capable of exerting as much influence for evil, as for good; and more frequently do the appetites of men lead to indiscretions that prove hurtful to the health, and to the morals; it is also opposed to the blessings and benefac-

tions offered by those who have higher and more complete ideals of right.

A child may inherit belief and may acquire knowledge through the teachings of the parent. Two individuals may feel equally right in the conscience, but are far apart when weighed in the scales of public opinion. Theory suggests an idea—the idea is put into practice and a standard is adopted and placed to record—but when intelligence is weighed by ignorance, science is held in abeyance, progress is arrested, effort is stultified, and merit goes unrewarded.

Only the mind of experience is fully conscious of a thousand errors that can be corrected or avoided, were it not for the misguided enthusiasm of youthful ambition, harnessed with commercial energy that is hurtful to the moral and physical welfare of the human race. Age does not misapply its energy, its effort is concentrated and effective, it earns distinction and wears mantles of honor. The gray chieftain is successful in wars, in politics, and in peace. If a wise man, he is crowned with success, and glory attends him to the grave.

'Twas an old Arabian sage that watched through the vigils of the night together knowledge of the stars that light the heavens and that do silently stand guard over a sleeping world.

Great astronomers of the present century are accorded little less honor than the aged star worshippers in the long ago. The pagans have passed away and progressive nations have risen in the earth to profit by the traditions of the slumbering past, and now, the old philosopher is bending his mind to direct the sight of younger astrologers to thousands of glittering worlds hitherto unknown to the sages of ancient Persia.

The wisdom of age is a storehouse of experience that offers the greatest benefactions, it teaches prudence, skill, industry and patience, it is the mental, moral and physical guide that builds hope and nurtures ambition.

We are reminded that the wily Arab who inhabits the lonesome desert of the Orient, is possessed of a greater knowledge of the secrets of health and the mysteries of longevity than any of the class races that have grown great in the civilized world, or any other that may claim advantage of superiority for having accomplished more in the arts and sciences.

Through generations, and for centuries, the hardy children of Araby have continued to pass down to their successors, traditions and habits of living that enable them to attain the greatest possible age. It is not uncommon to see Arabians in the best of physical and mental health at the advanced age of one hundred and fifty years, subsiding entirely on cereals, camel's milk and the natural fruits of the desert.

Gentlemen, shall we advance further into the hidden mysteries of pathogenic disease, or shall we live the more contented way by ceasing to make further effort in the business we have chosen to represent?

Shall we feel content with our moorings, and shall we continue our homage to those who would make us an army of slaves, and instruct us how to use their private commercial endurances?

Could we find courage to restore our independence, and renew the prestige of the past, we would discontinue the mysterious madness of the present time and profit by the errors of the hour.

Could we employ the art of Necromancy, i. e. by calling forth the spirits of the long forgotten past, we would be led to exclaim with surprise, that while American physicians have advanced more rapidly than those of other countries, we are painfully deficient and widely apart on the question of diet, yet we see the possibility of extending the average life of man.

For the sake of all-prevailing truth, in the light and preservation of better statistics, go visit the graven tombs in our lonesome cities of the dead; go read from the stones a truthful record of the age of man, read his past and his present age, read those dates from the artful chisels, and the sculptor's hand, a history of vanished hopes and withered flowers. Then let us learn to profit by the wisdom of age, and learn to grapple with the *acids of decay*.

Only in the line of epidemics have we succeeded best in checking the fatal tendency of disease and the frequency of death; we are acquainted with contagion and infection, cause and prevention, we possess practical knowledge of quarantining the sick, but have we yet a complete knowledge of longevity and the wisdom of age?

In one particular it is unfortunate for the doctor, that all persons sick are not mentally or evenly balanced, and that below the average line of human intelligence he encounters ignorance, disobedience, skepticism, superstition, and total disregard of moral obligations, some are abandoned to the evils of licentiousness, to excesses, to exposures and dangers of infection; with this class of patients we are feeble to exercise proper control.

The monarch of the forest that has for centuries waved its massive branches in triumph overhead, is a fit example of longevity; it may attain the growth of a thousand years on account of its nature and environments; its home is stationary, and its habit is of the unvarying kind, its delving roots dig deep in Mother Earth, its food is the same kind year in and year out, its tall branches wave in majestic splendor in the open sky, its feet are

eased in the soil, in the warm springtime it puts forth its blossoms, it lives in the open air, and drinks the dew of heaven; when calm its dignity is appalling, when disturbed by the winds, it sighs and moans; its leaves tremble and flutter, they murmur and sing the sylvan songs, and whisper in our ears the philosophy of life and the wisdom of age.

The whale and the elephant are the only two animals known that possess larger amount of brains than man.

The whale is the longest lived of the animal creation, it is the monster and the monarch of the deep, its great age is due to its indolent nonlaborious manner of feeding and to its large consumption of wholesome, simple, nutritious food so abundantly supplied by its home in the sea. The capacity of its mouth offers inviting refuge and place of shelter for myriads of unsuspecting schools of fish that gather within its massive jaws, which in the large animal measures about sixteen feet in length, seven feet in width and twelve feet in height, its gullet is less than two inches in diameter, but capable of great distention. With its mouth wide open it drives and feeds through congregated shoals of lobsters, crabs, shrimps, madras and other varieties of soft fish that abundantly inhabit the sea. On its simple diet the monster will live a thousand years or more.

The elephant in its wild state will live two or more centuries, its food is the simplest known, consisting mostly of sweet grasses, the tender herbage of the forest and of the field.

Of the feathered tribe, the raven and the parrot are the simplest feeders known, they will live a hundred years. Object lessons are useful, we should turn them to good account. The longest lived birds and animals are possessed of the simplest habits. Intelligence is at war with passions. Education is overpowering ignorance; knowledge is extending the influence of reason; transgression is punished, and the wisdom of age is subservient to the health, to the happiness, and to the longevity of man, surely and slowly we are drifting in the line of progress.

The world's greatest men are being awakened to public health, interest is growing, sanitary laws are being enacted, commissions appointed, tainted food is being condemned, all for the good of mankind.

I shall not invite the question of greater evils that retard the advancement and lessens the civility of man, nor those subtle influences that affect the stability of the honorable institutions of medicine.

A human idea is conceived, it is born and acted upon, it lives and starts a habit, it offers suggestion and is a precedent transmitted, it proves a benefaction, or it may prove a

curse. Man inherits habit or precedent more frequently than he inherits disease.

The trinity of human happiness is *health, peace and competency*; its requirement is attended with self denial, patience, effort and endurance. Mammon is enriching avarice, feeding lust, and treating health with disease.

Know ye, all men who would live long to enjoy the benefactions of health and the wisdom of age. Gather knowledge from the simplest habits of the centenarian, learn it from the whales of the sea, the great trees of the forest, the mammoths of the jungles and the ravens of the air; by each one's habit, learn the value of rest and of plain food.

The hardy pioneer of early days seldom got sick, only from exposure, hunger, or fatigue; his daily food was limited to the supplies of the forest and the field, his fruits and vegetables were eaten in season, his meats were freshly served, boiled, wholesome and appetizing.

Those people who live the longest, find protection in their homes, one quiet hour of repose on a sofa each day after meals is sometimes capable of restoring in three months' time the lost energy of a dozen years. In many cases of injured health it affords the only safe and reliable means for bridging the many cases of injured health it affords the grave.

The brilliant achievements in medicine and surgery are largely credited to enforced recumbency and prolonged rest. The fame that rewards the surgeon's effort would lose its glory, his gentle hand would be divested of its magic power, his knife and his skill would fail him; the wizen den would more frequently stare him, and mark the places of early graves, were it not for his uncompromising law of unbroken rest and wholesome food. Rest is a bolster, it is the storehouse of vital energy, the logical friend of fatigue, and the lingering charm of life. Upon its benefactions depends the harmony of nature's foremost laws; disappointment, pain, sorrow, exertion, fatigue, fretfulness, anger, thirst, hunger, broken rest, exhaustion and worry: the united forces, and the constituted enemies to health and to longevity.

Now, we shall offer a few useful hints to those who lead the strenuous life, who for many obvious reasons, would keep awake at night, by drinking artificial strength from the fragrant tea, and the steaming coffees. Renewed strength is in demand, quick stimulants are strangely adapted to the desires and appetites of the human race. A stimulant dispels gloom and fatigue, wakefulness is excited, and night is converted into day; it arouses the latent powers, it spurs the languid spirits of the weary soul, the tempting

gods invite reaction; the tea, coffee and tobacco are unfortunately fitted to extend the hours of wakefulness and revelry, but nature prays and begs for sleep, it deplores the use of anything that would rob the body of needful rest, but the habit is fixed, it pacifies the mad craving of the hungry soul, and leads it to enjoy the cool shades and refreshing air of night. Mankind is surrendered soul and body to the social pleasures of night, it is the time when a stimulant is called for to elevate the jaded spirits, it tides the waves of the feeble heart, it strengthens the weary nerves, it awakens the appetites of pleasure, it is the fitful companion of joy; but alas, the unrestrained agent of habitual wear and hopeless decay.

Acidosis is the offspring of toxemia, the fateful poison of age; it proclaims its visitation and its presence with white hairs, with bald heads, with decayed teeth, with wrinkled skin and bended spine; it gathers with advancing years to mar the beauty of the form, to dim the luster of the eyes, it poisons the breath, it sickens the smile, it cracks the voice and racks the nerves, it tortures the heart, it weakens the frame, it produces tension, lessens inhibition, hardens the arteries, stiffens the joints and shortens the life of man; its factory is the human stomach, its domain is in the blood, its kingdom is the body of man; it is the arch fiend that preys on the vitals, it is the artful chemist that invites the weary traveler into the shades of eternal rest.

IRITIS AS SEEN AND TREATED BY THE COUNTRY PRACTITIONER.*

By J. F. DUNN, Arlington.

Unfortunately for our patients we have no specialist near by to whom we can refer our eye patients, therefore, we are compelled to rely on our own responsibilities, giving them the benefit of our general knowledge, by the aid of our medical literature, and trusting our old friend Nature for the balance. Ofttimes we are compelled to treat diseases of the eye with reluctance, feeling our incompetency, but the patient frequently is not financially able to go away to a specialist and prefers to stay at home under the care of his family physician and risk the consequences.

Iritis is one of those diseases which confronts each and every one of us occasionally. It is of supreme importance that we make an early diagnosis and institute proper treatment, for in no other disease is delay or neglect more detrimental.

Iritis is an inflammation of the iris, often involving the ciliary body and choroid. It may be plastic, suppurative, or serous. I shall not take up each type separately as one usu-

*Read before the Carlisle County Medical Society.

ally merges into another but shall take up the subject as a whole, as it all amounts to about the same.

PATHOLOGY.

This is similar to inflammation of any other part of the body. The iris is congested, thereby, causing the discoloration and slight swelling. It is the swelling of the iris which causes it to encroach slightly on to the pupil, thereby making it smaller than normal also smaller than in the other eye if only one eye be affected.

As soon as plastic exudate is thrown out at one or more spots on the posterior surface, and it is at these points that the iris adheres to the capsule of the crystalline lens, a condition known as posterior synechiae. Occasionally adhesions take place between the anterior surface and the cornea, known as anterior synechiae. It is these conditions that make the prognosis gloomy.

The disease usually lasts from two to four weeks, and, in the writer's estimation, if the proper treatment is applied very early and continued, the majority of cases will recover.

Exclusion of the pupil may result, because of extensive adhesions, which by preventing the escape of fluid from the posterior into the anterior chamber, cause glaucoma.

Occlusion of the pupil, as a result of lymph deposit in the pupil may cause total blindness.

ETIOLOGY.

Fifty per cent. are due to syphilis, either acquired or inherited. Rheumatism, gout and traumatism are also frequent causes. Of the few cases that have come under my observation, traumatism was the most frequent cause.

DIAGNOSIS.

There are two other diseases that are some times liable to mislead us, viz.: conjunctivitis and glaucoma. We can very readily distinguish them by the following points.

Iritis: Pupil small and dilates irregularly by use of a mydriatic; lacerimation but no discharge; pain, radiating to temple and cheek, becoming worse at night.

Conjunctivitis: Pupil normal and dilates readily and evenly; mucopurulent discharge; no real pain but hot gritty feeling.

Glaucoma: Pupil widely dilated and immovable; lacerimation; severe pain and headache which are constant.

Henceforth, when a patient comes to you with a red eye, with profuse lacerimation, severe pain radiating to temple and cheek, becoming worse at night, the pupil being small and gray and upon the application of atropine it dilates slowly and unevenly, you will rarely, if ever, miss it when you call it Iritis. And you should put him on prompt and active treatment—which should be as follows:

Give a calomel purge as a routine. Ascertain the cause which, if it be syphilis, put him on mercury. If it be gout or rheumatism, put him on salicylates. If it be due to traumatism remove the foreign bodies, if there be any, and cleanse. At the earliest possible moment put the eye under the influence of a mydriatic, the best of which is atropine. This should be used unsparingly till the pupil is widely dilated, then only often enough to cause it to remain so until all the inflammation has subsided. A little cocaine may be added for relief and also for the aid it affords the mydriatic. Boric acid solutions are good for the antiseptic effect although I find no author to bear this out. Sajous recommends very highly scopolamine hydrobromate, using two drops of a one-tenth of one per cent. solution three times daily, which removes synechiae that atropine fails to influence. He says it quickly removes the pain. In a long continued case he alternates it with atropine.

The general nutrition of the patient should be looked after, consequently, it is not best to confine the patient to a dark room for too long a period as we will deprive him of Nature's best tonic—fresh air,—but we can overcome the photobia to some extent by dark glasses.

Moist, hot applications help to relieve the pain and inflammation. In traumatic iritis cold applications are recommended. Reading should be prohibited and the patient put on a light, wholesome diet.

I have had to resort to the use of opium in some form for the relief of pain.

For the sequels of iritis, such as exclusion of the pupil, occlusion of the pupil, corneal opacity or glaucoma, iridectomy has to be performed. When this is the case we, as country practitioners, should send them to a specialist or let them alone.

ABORTION.*

By M. A. LEXTON, Lookout.

By abortion is meant the interruption and termination of pregnancy by the expulsion of the ovum before the end of the twenty-eighth week of gestation.

In a more restricted sense, the term is used to denote the expulsion of the ovum prior to the complete formation of the placenta, that is, before the twelfth week.

Miscarriage would mean the expulsion of the ovum from the twelfth to the twenty-eighth week. While expulsion of the fetus between the twenty-eighth week and a short time before full term is designated premature labor.

*Read before the Pike County Medical Society.

FREQUENCY.

Statistics relative to abortion are far from complete. Many abortions occur during the first three months of pregnancy that physicians have no knowledge of, and it is more than likely that prior to the third month, a great number take place that are not suspected by the patients themselves.

The frequency of abortion to labor at term has been variously estimated by different authors as 1:5 1:2 and 1:8. Some investigators claiming thirty-five to forty out of one hundred mothers abort at least once before their thirtieth year.

There are more abortions during the first, second and third months of pregnancy, due perhaps to the great vascularity of the uterine mucous membrane, also to the feeble attachment of the undeveloped chorionic villi to the decidua, and to the existing space between the chorion and decidua reflexa.

The accumulation of blood in this space is no doubt an exciting factor in causing abortion. The disposition to abortion diminishes after the fourth month, as the placenta becomes more fully developed and the connections between the ovum and uterus becomes stronger, the uterus adjusting itself to the new order of things.

Abortion is more likely to take place upon the days corresponding with the menstrual period.

ETIOLOGY.

Abortion is more likely to take place upon death, or of uterine contractions. The causes are usually subdivided into those referable to the father, to the mother, or to the fetus and may be either predisposing or exciting. Exciting causes act more quickly, such as blows, falls, jarring, missteps, lifting heavy weights, stair climbing, etc. The predisposing causes may be paternal or maternal. A syphilitic father may produce syphilis in the ovum without infecting the mother. Extreme youth, old age, debauchery, and feebleness are also paternal causes.

Tuberculosis and syphilis of the mother may destroy the fetus by transmission of these diseases, either to the placenta or ovum.

Syphilis being responsible for the majority of recurring abortions.

The acute infectious diseases kill the fetus, either by the direct action of poison through the placenta, by the action of high temperature, or by placental hemorrhage produced by the disease process.

Diseases of the heart, lungs, liver and kidneys destroy the fetus by producing congestion in the placenta. Chorea, eclampsia, epilepsy, vomiting, coughing, fright and anxiety are all factors in the causation of abortion.

SYMPTOMS.

Reliable signs and symptoms of approaching abortion rarely exist before the third month. Simple uncomplicated abortions occurring before placental formation are quite frequent and probably does not represent the class of cases coming under the physician's care. As a rule, abortions are slower than normal labor at term, the abortive process varying according to the period of gestation, the cause of the abortion, condition of the os and cervix and energy of the uterus.

In early abortions, hemorrhage is the leading symptom and usually the first to attract attention. Generally the hemorrhage will continue until the uterus is empty.

After the fourth or fifth month the symptoms resemble labor at term.

Here the hemorrhage may appear only at intervals in the shape of clots, collecting in the uterus in considerable quantities before being expelled. This is termed "concealed hemorrhage." After the fourth and fifth month the pains of abortion resemble labor at term. At times, nature comes to the aid of the patient and completes the case nicely. Usually this is not the case, for owing to the firmer connections to the uterine surface, more force is necessary for detaching the membranes. The amniotic sac usually ruptures and the fetus is expelled.

Instead of the membranes and the placenta coming away with the fetus, a portion or all may remain behind, requiring days, weeks and even months for completion.

This is termed, "incomplete abortion."

So long as any portion of the ovum, or its coverings, remain in the uterus, just so long will the patient be subjected to the risk of hemorrhage and sepsis.

Pregnancy existing and abortion determined upon as the cause of the symptoms, the next thing to find out, is whether abortion is simply threatening, whether it is inevitable, or whether it has been completed.

In threatening abortion, the os and cervical canal is not dilated, the hemorrhage not profuse and the pains are easily controlled.

In inevitable abortion, the os is dilated sufficiently to admit the index finger, and the uterine contents are forced down within reach of the finger with each pain, hemorrhage and pains cannot be controlled. Abortion is complete when the uterus is free from avular tissue. Incomplete while any portion remains behind.

The continuance of pains or of hemorrhage, or both, is evidence that abortion is not complete.

TREATMENT.

In the treatment of abortion we have to consider: (1) prophylaxis; (2) treatment of

threatening abortion; (3) management of actual abortion; (4) treatment of incomplete abortion and after management.

The prophylaxis consists in the treatment of all those general and local conditions which predispose the patient to abortion.

In threatening abortion, if the os is found undilated, hemorrhage slight, pains moderate or absent, the case should be treated as preventable.

Our aim should be to prevent, if possible, any further separation of the ovum from the uterus, by endeavoring to control hemorrhage and prevent uterine contractions.

The patient should be put to bed, absolute quiet and rest maintained for several days until all danger is passed.

In the way of drugs, opium in one of its forms meets the indications as a sedative. It should be given often enough to preserve systemic quiet. If it is thought necessary, the bromides may be given in place of the opium, or given in connection with it. The fluid extract of viburnum in drachm doses, seems to act nicely in quieting uterine contractions.

Treatment of inevitable abortion. If the os is dilated, pains and hemorrhage continue, notwithstanding treatment, the indications now will be to control hemorrhage and secure complete evacuation of the uterus.

Before the fourth month, the vaginal tampon will control hemorrhage and hasten the complete separation of the ovum by causing an accumulation of blood between the uterus and the membranes. The tampon causes strong uterine contractions. The material used may be strips of antiseptic gauze, strips of sheeting, cheese cloth, roller bandage, etc.

The tamponing may be done with the aid of dressing forceps and one or two fingers as a guide.

Care should be taken to pack well about the os and cervix. The tamponing is continued until the vagina is moderately filled, a pad is placed over vulva and held in place by a T-bandage. Half drachm doses of the fluid extract of ergot is given every two hours.

If there is much pain, five grains of phenacetine will give relief. After from eight to twelve hours the tampon is removed, usually the entire ovum, or the fetus alone will be found in the vagina. If only a portion is thrown off, we should tampon again.

If this is not successful, the uterine cavity should be explored with one or two clean fingers, the retained portions separated and removed. If unsuccessful with fingers, use a curette, or placenta forceps, followed by the curette and a hot saline douche of normal salt solution, a one or two per cent. creolin solution, or a hot solution of permanganate of potash, drachm to pint, acts nicely.

Treatment of incomplete abortion. If af-

ter the apparent completion of abortion there is hemorrhage, continuous or interrupted, with pain and odor of decomposition it is certain some portion of the placenta or membranes remain behind.

The indications are clearly to empty the uterus completely, and at once, with fingers if possible, with curette is necessary.

This is followed with a hot intrauterine douch, and repeated every six to twelve hours according to indications.

A woman who has aborted requires as much time for the repair of lesions and involution of her enlarged uterus as does the woman who is delivered at full term.

If this was generally recognized, there would be a marked decrease in the number of pelvic disorders, and there would be as great a falling off in the number of abortions.

RHEUMATISM.*

By T. C. NICHOLS, Morgan.

An acute infectious disease, characterized by fever, inflammation in and around the joints, acid sweats, and a great tendency to inflammation of either the endocardium or pericardium. The disease is believed to be of infectious origin, but no specific organism has as yet been isolated. The tonsils are very often the portals of entry for the infection. Certain predisposing factors seem necessary for the production of the disease. Among these may be mentioned exposure to cold and wet, sudden reduction in the temperature, lowered vitality from various causes, winter and spring seasons, heredity and previous attacks. Acute rheumatism is a disease simulated by other infectious fevers especially scarlet fever, puerperium and gonorrheal synovitis due to a specific cause or a remote consequence of them. The affection is seldom observed before seven or after fifty years of age. The affected joints are intensely congested and the synovial membrane and surrounding ligamentous tissues are greatly swollen. The cartilage may be eroded. The synovial fluid is thinner than normal and of a reddish color, containing albumin, some gelatinous coagula of fibrin, leucocytes, but no pus cells or organisms in simple cases. There is an increase in the quantity and in the number of white corpuscles in the blood. The inflammatory edema of the joint and adjacent structures gives rise to considerable visible swelling and by its stretching of the parts and pressure on the nerves induces, in all probability, the pain. The joint condition usually ends in resolution. The complications of this affection possess no features different from the same conditions

*Read before the Pendleton County Medical Society.

when occurring independently. Usually the onset is abrupt, there is more frequently a short prodrome of a day or two, during which the patient feels uncomfortable or has an unpleasant aching feeling in his joints. More often, however, the pain in the joints, which is the first symptom to attract attention, develops rapidly, coming on in a single day or night, or seemingly in much shorter time, making locomotion at once difficult or impossible. After the affection has begun, there are profuse acid sweats, great thirst, constipation, and scanty, high-colored, acid urine containing an excess of uric acid and urates, and sometimes traces of albumin. From the beginning there is fever, but being seldom high at this stage, it is not commonly the first symptom to attract attention. Later, it usually increases proportionately to the extent of joint involvement, but only in the meningeal form is it extremely high. Nor does it pursue a course at all distinctive. Occasionally, however, there is intense hyperpyrexia, when the temperature rises rapidly from 104 degrees to 110 degrees F., and even higher. With this are associated cerebral symptoms of an alarming and dangerous kind intense headache, and delirium, symptoms otherwise rather unusual in acute rheumatism. To these are often added unconsciousness, pulselessness, and cyanosis rapidly followed by death, unless the temperature is promptly reduced. This combination of severe symptoms is known as the meningeal form or rheumatism of the brain. Sleep is prevented by the pain and the profuse perspiration. The strength is moderately well preserved. The skin is covered with various forms of miliaria or prickly heat due to excessive irritation of the sweat glands. The local phenomena are pain, increased by motion and pressure, tenderness, and increased heat, swelling, and redness of one or more joints. Swelling is most apparent in those joints not covered by muscles as the knee, wrist, elbow and the ankle, and is proportionate to the acuteness of the attack. The inflammation may suddenly cease in one or more joints and abruptly appear in others. The disease is extremely irregular as regards the number of joints affected, although the local manifestations are controlled by an important pathologic law, the law of parallelism. The affected joints are either on one side of the body; or those on both sides that are analogous as the knee and elbow, wrist and ankle, hip and shoulder, are attacked together. This migrating character of the inflammation is especially distinctive. In some cases the affection is unattended by articular manifestations. The most common complications are endocarditis, pericarditis, myocarditis, cerebral endarteritis, pleurisy, perito-

nitic, bronchitis, pneumonia, tonsillitis, hyperpyrexia, erythema, oedema, uteraria, and purpura. As sequels may be mentioned chorea, acute nephritis, false ankylosis, chronic rheumatism and exophthalmic goiter. The duration of acute rheumatism is governed entirely by the presence or absence of complications. Uncomplicated cases recover in from thirteen to twenty-one days, although they may be prolonged to five or six weeks. Relapses are frequent. A typical case cannot be mistaken for any other disease, but cases running a sub-acute course may be mistaken for acute rheumatoid, arthritis, gonorrheal rheumatism or pyemia. Acute rheumatoid arthritis attacks one joint at a time, becomes permanent, has slight, if any fever, and no sweats or cardiac lesions. Gonorrheal rheumatism is associated with a gleet discharge, or follows the sudden cessation of an acute or subacute gonorrheal attacks. Pyemia is usually manifested in a single joint at a time, and is followed by all the symptoms of hectic fever and suppuration.

Recovery is the rule in uncomplicated or cerebral endarteritis, one attack predisposes to others. In all cases the patient should be placed at absolute rest in bed. He should wear woolen garments, and blankets should constitute the bed clothing, care being taken to protect the inflamed joint from excessive weight of the coverings. The diet should consist of easily digested substances, preferably milk. The free use of water, particularly the alkaline mineral waters, should be encouraged. In strong and vigorous patients the administration of one of the salicylates, or salicynes, aspirin, salol, salaphen, or oil of wintergreen, may be used and pushed to the point of tolerance. In all cases, special internal treatment should be preceded by a course of calomel followed by a saline laxative. Usually this treatment affords rather prompt relief, but if after three or four days' trial there is no benefit derived from it, alkaline treatment should be substituted. This consists in the administration of an ounce and a half of one of the alkaline carbonates, either alone or combined with a vegetable acid, every twenty-four hours until the urine becomes neutral or alkaline, when the quantity should be reduced to an amount just sufficient to maintain alkalinity. After the acute symptoms have subsided, Basham's mixture or tincture of the chlorid of iron should be administered. A pale, feeble and anemic patient, strychnine sulphate and liquor ammonii acetate should be given with the iron. In all cases quinine sulphate in large doses daily, is of great value especially when there is hyperpyrexia under which circumstances it should be administered hypodermically and accompanied by a cold or tepid bath or wet pack.

For the relief of pain, opium in some form

or atropin sulphate hypodermically, alone or combined with morphia. Rest of the affected joint is essential. The inflamed parts should be wrapped in cottonwool or flannel saturated with lead water, lanadum, oil of gaultheria and compound soap liniment. If the joint condition tends to persist, equal parts of mercurial ointment and the ointment of belladonna will be found of great value. Baking the joints in a hot air apparatus is also beneficial.

THE RELATIVE DUTY OF THE TEACHER.*

By PROF. C. E. DUDLEY, Earlington.

The purpose that brings together to-day the various professions to consider the public health, is a laudable one. It is the one interest that touches the community as a whole and the one subject, if promoted, which adds to every other interest.

The medical profession offers to a man a great field for usefulness. He is not the greatest doctor who can cure stubborn diseases, but he who has the ability to teach a community how to live without disease. This is your and our mission to-day.

SCHOOL, DEFINED.

No one term has undergone a greater change in the past decade, than the purpose of the school. The one idea of the school, of our fathers and of many of us, was to teach how to read, to write, to spell and to cipher a little. The one dominant thought was to develop the intellect, and often at the expense of everything else. How different to-day. The whole child must be considered, intellectual, moral and physical with strong emphasis on the physical, as well as on the moral. In the words of Dr. Dewey, it is the purpose of the school to fit the child for complete living. Without health this is impossible, therefore the importance of the school doing its duty along this line.

EFFICIENCY.

Conservation of our natural forces and resources is one of the great problems of the day. How to prevent unnecessary losses and save resources for generations yet unborn, is a problem of sufficient magnitude to stagger the intellect of our greatest statesmen. Yet, as Ex-President Roosevelt has said, "The conservation of our National resources is only the first step in the still larger question of the conservation of national efficiency." The Nation's health is the Nation's wealth, and the mightiest need and cry of the age is hygienic and medical inspection, education and super-

vision in factory, home, store, school and college. The lack of which to-day is costing us billions of wealth.

STATE'S LOSS.

In no department of our economy is the money spent by the state, spent with so little regard for return as that spent for education. While teachers are the poorest paid of all public servants, yet if that small sum was spent under more favorable conditions, if the state should spend one-half the sum it now spends for education, to improve the physical condition of children the other half would yield a larger return than the whole does to-day.

DEFECTIVES.

This brings us to a discussion of defectives. It has been my observation that teachers readily attribute slowness or lack of ability to do work on the part of children to natural dullness or lack of brain power. While this may be true in some few cases, yet a large per cent. of cases thus attributed are due to physical defects. It has been estimated that 65 per cent. of all children entering school are unfit for successful work. While the loss from general bad health is large, yet there is a greater loss from specific causes, defects in hearing, sight, teeth, enlarged tonsils, adenoids, catarrh and other ailments are recognized to-day as the causes for slow progress in a large class. I have noted the listless, backward, pupil for years, and have come to the conclusion that the slowness is due, in a large per cent. of cases to one of these causes.

A recent investigation in Manhattan Borough, N. Y., revealed the following facts: out of 275,641 cases of school children examined, 71.1 per cent were found to need treatment of some kind, 21 per cent. had defective vision, 15 per cent. had obstructed nasal breathing, 49 per cent had bad teeth, 27 per cent. had enlarged tonsils, 16 per cent. had nasal growths, with one to ten per cent. with other ailments.

Now the children of New York are no worse off than ours. Out of 20,000,000 children in the United States in school, 14,000,000 need treatment. A little matter of personal observation last fall revealed the following: Out of 100 cases whose teeth were examined by Dr. Baldwin, 70 were found to be in need of immediate attention. All these things indicate at how great a loss our schools are operated. More than one-half the energy expended by the teaching force is lost. What is the remedy?

MEDICAL EXAMINATION FOR SCHOOLS.

This is the only solution. Parents are often ignorant as to their children's conditions, or blinded by their daily contact with them. Only an examination made by a competent

*Read before the Hopkins County Medical Society.

doctor, who can see the defects and suggest the remedies. Medical inspection helps to eradicate communicable diseases, but only a thorough examination can advance the cause of education by removing defects, medical inspection is being carried on in various parts of the world with success.

Japan has 2000 medical men who devote their whole time to the schools; New York City employs 150 physicians; Chicago has 100 medical men who look after the health of the children in schools; Minneapolis has made a good beginning by employing 8 physicians and 8 trained nurses, who visit the various buildings and render assistance where the need is greatest. And twice each year the physicians make a careful study of each child. We may be far from this in Kentucky, but the time is not far distant when the physical welfare will be considered one of most importance to the state. One great good is being accomplished through our mothers' and parents' meetings, by bringing the home and school closer together. The teacher, if sincere and competent may be able to render valuable assistance by helping parents to a better understanding of the child's physical condition and by pointing out the way to its relief.

COMMUNICABLE AND PREVENTABLE DISEASES.

The school still has a duty toward the public in its instruction and attitude toward communicable and preventable diseases. Here again the school may serve the state. During 1911 more than 5000 deaths occurred in Kentucky from contagious diseases and still another 5000 from tuberculosis. Through proper instruction in the school this number may be greatly reduced and life and wealth saved to the state. The loss through this class of diseases, to the state is immense in wealth, yet even greater in loss through its citizens. Proper instruction on the part of the school along the line of cleanliness, ventilation and exercise will make consumption a thing of the past, and care on the part of the citizens will reduce many communicable diseases to the minimum.

We represent here to-day three great professions, each deals with the public for the public good. The Doctor, the Minister of the Gospel and the Teacher. Each thinks he labors in a distinct field of usefulness, but when analyzed it reveals the fact that we all work for the public welfare.

The school to-day is trying to measure up to its duty, and in the near future I believe the doctors will find the school to be his most valued colleague in maintaining public health.

ILEO-COLITIS.*

By A. T. BORTS, Glasgow.

Ileo-colitis is an inflammation of the ileum and upper part of the colon, characterized by frequent discharges, tenesmus, with bloody stools consisting mainly of mucus.

ETIOLOGY.

Most cases occur in hot weather and in children from six to eighteen months old—second summer. Most cases occur in bottle-fed babies, and those cases not in the bottle-fed class are nearly always babies who have been allowed improper food, and if you inquire into these cases the mother will tell you that they allow the child to eat any old thing that they have on the table. So that the child's digestion is already deranged from improper food and when the depression from the hot season comes on and the unsanitary conditions that prevail in many of these cases, we need not wonder at them having trouble. It is frequently a termination of gastro-enteritis or of cholera morbus. It is most prevalent among the poor. Sudden changes in temperature will also cause it. The bacterial findings are numerous, but no one alone has as yet been identified as the cause. The Shiga-Flexner bacillus has been found in most of the cases. Pus germs are also found in the severe cases.

PATHOLOGY.

In mild cases the mucous membrane of the bowel is congested and swollen with the solitary follicles and Peyer's patches more distended, the disease may end here, but if it continues after the second week, the solitary follicles and Peyer's patches become ulcerated with decided thickening of the walls of affected bowel.

SYMPTOMS.

The acute form may develop slowly with restlessness, or suddenly with high fever, loss of appetite, thirst, nausea, vomiting, abdominal pain and diarrhoea. The abdomen is swollen and tender. The stools are semi-fluid, greenish, acid, with mucus and undigested casein. The temperature and pulse are accelerated and emaciation is rapid. Sometimes it begins as gastro-enteritis, and the transition from gastro-enteritis to ileo-colitis is so gradual as to be hardly perceptible. In the chronic form the temperature is frequently subnormal followed by sharp rises and when the bowels are moved there will be a large quantity of foul mucus. The extremities are cold, the features sunken. The skin hangs in loose folds and the child is reduced to a mere skeleton.

*Read before the Warren County Medical Society.

PROGNOSIS.

Prognosis is favorable when the treatment is prompt and appropriate, but so many are neglected, and when you are called you often find that all the colic and diarrhoea cures have been exhausted before you are summoned, and as nearly all of these patent medicines contain opium and some of them even capsicum. So that when these things are given to bind up the bowels, that are already full to overflowing with fermenting food and bacteria, it is no wonder that some of these cases do badly in spite of our best efforts. These cases are often in a subacute or chronic form when we are first called to see the child that is as they tell us, over the phone, only teething. Teething with the laity is blamed for about as much as is gripe and malaria with us doctors. The acute cases usually subside in from ten days to two weeks. The chronic form lasts from one to three months. Vigorous children who have passed their first dentition, are much more likely to get well, than those weakly infants who are surrounded by unhygienic conditions, as is so apt to be the case in the poorer classes. It is in this class of cases that the mortality is greatest, as it is almost impossible to impress on those in attendance the importance of cleanliness and to get them to feed the patients properly.

PROPHYLAXIS.

It is our duty as physicians to warn mothers, and especially those of the poorer classes, of the value of cleanliness in preparing and in keeping the food, also of cleanliness of the patient, and surroundings. Keep the flies away from the patient and its food. Give the child a daily bath. Avoid sudden chilling of the child, also see that it doesn't get too warm. See that it is not fed a little of everything that the rest of the family eats. To sum it up see that it has nothing to lower its resistance, (easier said than done), as the hot weather is enough, without having the child's digestive system upset by over-feeding, etc. We often see bottle-fed babies nursing through a glass tube with a piece of rubber tubing attached, the whole thing several inches long, and a matter of impossibility to properly sterilize them. The man that makes them ought to be hanged and then we would lose fewer innocent babies. How often do we see milk vessels hanging out in the sun and flies swarming over them? And when they are used again, sometimes they are rinsed with cold water and sometimes used without washing at all. In this way, I think, a good many are infected with not only this disease, but with typhoid, and other diseases.

Another thing I think we ought to warn people against, when we see them do it, and

that is the practice of giving coins to babies, for they don't know how many dirty pockets these coins have been in, so they don't know any better than to put them into their mouths.

TREATMENT.

Stop all food at once, and allow absolutely nothing unless it is boiled water during the first twenty-four hours. Then begin with Barley water, or rice water, if the child tires of this cereal diet, we may add a little mutton or chicken broth (free from fat) till it can begin taking milk. We should not begin the use of cows' milk till after the stools have been normal for a few days. As these cases bear fats badly, we should give skimmed milk or buttermilk. In any of the late text books on diseases of children we will find formulas for modifying the milk as the case demands. Sometimes we will find that cows' milk in any form is badly borne, so in some of these cases I have been forced to use condensed milk or some of the ready prepared foods, as malted milk, peptogenic milk powder or Mellin's food. In any case we have to be very careful in returning to a milk diet, and add it to the other food in small amounts and very gradually. When first seen the child should be given sufficient castor oil to thoroughly clear the bowel of all fermenting food, aided with thorough irrigation of the colon, through a large catheter. After the bowel has been thoroughly cleansed, then give ten grains of s. n. bismuth every two or three hours, and if it is not converted into the sulphide of bismuth as shown by the dark or black stools, give 1 grain of sublimed sulphur with each dose. In giving these large doses of bismuth, be sure you give it pure—either Merck's or Squibb's—as you might get arsenical poisoning from an impure bismuth in these large doses. If the child is still very restless and there are frequent stools, give a small dose of Dover's powder, or paregoric to quiet the child and the excessive peristalsis. Also give from two to seven or eight grains of tannin or tanalbin every three or four hours. If the child becomes drowsy and the fever runs up, leave off the opium and repeat the oil. Give also small doses of bichloride of mercury three times daily in the protracted cases till the character of the stools is changed. In bottle-fed babies, if possible, procure a good wet nurse. And in all cases instruct the mother or nurse not to let the child nurse or feed it every time it cries or frets as the child frets from thirst. It is best to boil all water, that is given the child. Our attention should be early directed to the extreme prostration, and where it is well borne, give brandy or whisky to overcome it. We should not keep up daily irrigations too long as some authors claim

that will keep up the mucous discharges. In protracted cases we can try astringent injections as 1 oz. of witchhazel to the pint of water or we might use a very weak solution of nitrate of silver as an injection. In the chronic cases I usually give a very small dose of nitrate of silver three or four times a day for its local effect on the mucous membrane of the entire digestive tract and think I have saved some bad cases by its use. In cases with bowels badly swollen, I usually irrigate with a solution of peroxide of hydrogen. In severe cases with high fever why not use proctocolysis, the continuous use of saline solution as we do in other severe infections. I intend to try it in the next severe case I have, especially if I can have the cooperation of a good nurse to use it. In the chronic cases, see that there is at least one good free bowel movement in every twelve hours, and use your best efforts to keep the child from starving, as we have to fight malnutrition as well as the disease and if the family can afford it, recommend a change of climate. If they cannot send the child away try to keep it alive till the climate changes here—that is till cooler weather—and many apparently hopeless cases will then get well. But owing to their lowered resistance they will have to be extremely cautious the following winter or the child will die of bronchopneumonia. In older children who still have dysenteric discharges of blood and mucus or pus, examine them with a speculum and if you find an ulcerated rectum treat them locally with nitrate of silver. Also in these very chronic cases, when it seems that you cannot relieve them with ordinary method try giving large enemas of from 1 to 500 to 1 to 2,000 of quinine bisulphate or if this is not effective, try Dr. Hanes' coal oil treatment, and if the dysenteric discharges still persist, especially in older children and an examination of the stools show ameba, demonstrating beyond all doubt that it is a case of amebic dysentery, we may, if the child's strength will permit, consider the advisability of doing an appendicectomy and irrigating through the appendix. In dysentery, the serum treatment is still on trial, but with one observer the use of Shiga's serum, reduced the mortality from 34 to 9 per cent.

In conclusion will say that each case is a law unto itself and should be treated as such. In this paper I realize I have recommended several remedies, but when we get a bad case if the patient lives and the family's patience holds out, we will have ample time to try different treatments. If seen early the clearing of all irritating matter with a large dose of oil, with the bismuth and tannin and a few good irrigations and careful dieting, with the addition of citrate of soda, 15 to 60 grains a day, in the milk, (when it is begun),

will cure most cases. It is the chronic cases with malnutrition, and that have been early neglected, that give us so much trouble.

THE OPEN TREATMENT OF RECENT FRACTURES.*

By B. F. VANMETER, Lexington.

The open treatment of recent fractures is a comparatively new surgical field, and has many questions yet to be answered by discussion, and a fuller experience. The experience of most surgeons in the open treatment of fractures, is limited to do so few cases that it is unwise to base an opinion upon any one man's report of cases, as a report of a half dozen or so fortunate cases is liable to lead one astray and make him think it is easy work, when in reality it is the very opposite.

The open treatment of a given fracture should not be considered, unless one has, first: modern hospital facilities; second, very reliable assistance; third, proper instruments, (which unfortunately are of a new design, are expensive, and not to be found always at hand) this work cannot be done by the surgeon alone, he must have at least four hands, (six preferred) two of his own, and two of an assistant, competent to work coordinately with his own.

Have you ever found a more difficult thing to do, or have an assistant do for you, than hold a leg or foot, in a given position for a considerable length of time, without any change in position?

The control of all hemorrhage is very necessary, and in certain fractures is exceedingly difficult. Sepsis takes away almost all chance of a good result, endangers a leg or arm, and even the life of the patient. It has been shown that the more done by long handle instruments to facilitate keeping the hand out of the wound, the better the chance for a sepsis.

Mr. Lane, the originator of the Lane bone plate, claims to do his work without touching the wound with his hands, even though gloved. I noticed at the last Clinical Congress of Surgeons of North America, held in Philadelphia, they all seemed to be striving for this technique. The advent of the Lane bone plate has practically eliminated all indication for wire. Ivory pegs at the neck of the femur, and humerus, and in old and ununited fractures of long bone, where the medullary canal has been closed by hard sclerosed bone, ivory pegs, or nails are a necessity.

Hard sclerosed bone unites to sclerosed bone with difficulty, if at all. I have recently

*Read before the Kentucky Midland Medical Society, Georgetown, April 1, 1912.

had a case of this character, where the union was not quite firm, after three months the medullary canal was closed by hard sclerosed bone, and it should have been bored out at each end, and in addition the Mayos follow the practice of inserting a foreign body in the form of an ivory peg, claiming an increased leucocytosis, and increased healing.

There is great debate as to choice of time to operate, some claim after several days is the choice time, others claim in the first twenty-four hours, or as soon as the patient can be prepared. I see no good reason for this last contention, the first allows far more consideration of the case, and the better judgment, and it is certain that we need all judgment we can get, in deciding to operate on a recent fracture, it allows for recuperation from shock, cessation of hemorrhage and the study of possible X-ray pictures.

Compound fractures should not be plated, they should have all foreign matter removed with sterile forceps, all shreds and devitalized tissue cut away with scissors, no shaving, no washing, no loose stitches, then dressed with moist carbolized gauze, and put at rest. Under this treatment, many primary unions will be obtained. After the primary union, the treatment of the fracture can be as necessity indicates.

In practically all ununited fractures the open method of treatment with the Lane bone plate is indicated, there would be fewer of those to treat if it were possible to obtain X-ray pictures and subject the fracture to adjustment, and plating, as soon as it is definitely determined that a functional result will not be obtained; this being done before the muscle contracture will make it necessary to sacrifice length of limb. In some cases the open treatment, might be indicated for cosmetic reason, entirely aside from function, after the patient has full knowledge of the risk involved.

It is not my intention to go into details of various fractures of the bone which could or should not be treated by the open method. I think it would confuse the few points that I want to bring before you. I will say, however, that depressed fractures of the cranium and fractures of the patella, should practically always be treated by the open method. In fractures of the humerus, especially spiral fractures, and fractures of the lower and middle third, and fractures of the lower third of the leg, both bones, are the most frequent sites that bring forward the indication for the open treatment. As for myself, I think fractures of the lower third of the leg, both bones breed disaster, and are among the most difficult to get good results with splints, the difficulty increasing with the proximity of the fracture to the lower end. In this area plat-

ing is most easy, but it must be said, however, that the tibia has less toleration for plates than almost any other bone; this is attributed to its superficial covering.

Admitting that we have proper equipment and conditions favorable to do this work, there are a few questions that we must answer in each individual case before advising the open treatment in recent fractures; first, what is the chance of getting a functional result by splints; second, what is the personal equation of the patient as a surgical risk; third, what are the chances for a good functional result by the open treatment; fourth, what additional risk does the patient pick up by the open treatment?

The dangers are, anesthesia (which would probably be in either case), hemorrhage, involvement of the heart, kidneys, and lungs, shock and sepsis, in the reverse order named. The danger of embolus must be mentioned, and is probably a little accentuated by the open method.

Where the wound is closed the plates have to be removed later, rather too frequent for the peace of mind of the surgeon. The closer the plates are to the surface, the more often their removal becomes a necessity. In seeking figures on the subject, it seems this necessity occurs about one time in five, in the hands of very experienced men. A great man of experience, Mr. Lund, reports eleven cases, and was obliged to remove four plates.

You have probably reached the opinion from the foregoing, that I am not an enthusiast for the open treatment of recent fractures. Why? Because, after looking over the rather voluminous recent literature on the subject, and having had a limited personal experience, I do not believe that Mr. Lane's position, where he advocates the open treatment of practically all recent fractures (where there is no contrary indications of a constitutional nature) is most radical, to the extreme of foolishness.

If all of us had not had many good results, or I might say perfect results, by the old and time honored use of splints, accompanied by traction, we might be a little more tolerant of Mr. Lane's extreme views.

We all know that in the vast majority of fractures with an accurate diagnosis, a fair knowledge of anatomy, coupled with a reasonable amount of common sense, that we can get good results, with a minimum of risk to the life and health of the patient.

I want it understood, however, that with a patient that is a good surgical risk, the open treatment would be advised as soon as it becomes very doubtful that a fair result can be had by splints.

There is a class of fractures where we have never gotten good results by our old method

of treatment that carried with them a mortality above sixty per cent. I refer to fractures of the base of the cranium. Here the most radical treatment becomes a virtue, and until Harvey Cushing, before the Southern Surgical Association in New Orleans, in 1908, brought forward the theory as to the cause of the high mortality in fractures of the base, and propounded his theory of decompression, these cases died in an obscure corner of the wards of our hospitals, their only treatment being calomel or croton oil, or both.

Cushing first asked the question, why should there be such a high mortality in a simple linear fracture with practically no displacement.

When one remembers that the brain fits accurately, and fills completely the rigid and unexpandable cranium and at the same time calls to mind that accompanying all trauma-tism is swelling, due to the congestion or oedema, it will be readily seen why the fatal symptoms accompanying these cases are symptoms of compression. The compression either being due to hemorrhage in or outside of the dura, swelling or oedema, it matters not which, the problem is that of pressure.

It is not the simple linear fractures that kills forty per cent. in the first forty-eight hours, it is pressure. It is pressure that gives the slow pulse, slow respiration, that may possibly be irregular, or even Cheyne Stokes.

It is pressure that gives secondary unconsciousness which may or may not have been preceded by a conscious interval. It is pressure that puts the vital centers out of business and it is pressure that kills the patient.

Consequently the relief of pressure is the entire problem in the treatment, and under no circumstances an ice cap and waiting for development. Von Bergman says after the first forty-eight hours the prognosis in these cases are good for life, though not necessarily for health. It is true that a great many of these fatal cases die in the first forty-eight hours, but oedema kills many more in the second or third forty-eight hour periods. This can be shown by reading over the thousand cases of head injury reported by Phelps, in the *Annals of Surgery*, September, 1909. He has also shown in that report that more than half of the cases that had complete unconsciousness, died, (318 fatal; 224 recover). He further shows the temperature is the most important guide as to prognosis, not a single case in the thousand that showed a primary temperature of 102 recovered.

It is very obvious that if it is pressure that kills the patient, and a great majority of the fatal cases died in the first forty-eight hours, the plain indication, and the only indication, is to relieve the pressure, and to do it quickly.

The best method of doing this is that outlined by Cushing.

Through a split muscle incision opening down to on the middle of the temporal fossa, the removal of a circle of bone 1-2 to 3-4 inches in diameter, the dura is then opened, all necessary exploration can be made and the opening enlarged, if necessary, to tie the middle meningeal.

Drainage is established by tucking a folded piece of rubber dam under the temporal lobe and out the lower end of the incision, particular attention being paid to the secure closing of the fascia of the temporal muscle.

Quoting Cushing, "the advantages of the procedure in addition to its simplicity may be as follows; first, the approach is made through the thinnest available parts of the skull; second, the opening is made under the temporal muscle, the fibres of which are split and not divided, so that when closed they serve to prevent too great bulging, if the tension tends to make the brain herniate, and serves also to prevent a subsequent obtrusive depression when the normal condition has been restored. A subsequent defect in the situation is perfectly harmless; third, in case there has been a rupture of the meningeal or of one of its branches, the extradural clot is certainly brought into view by this opening and as the meningeal trunk is exposed the vessel can be easily ligated; fourth, in all bursting fractures accompanied by laceration of the brain, it is the tips of the temporal and base of the frontal lobes which most frequently suffer, and a subdural extravasation from this source can most readily be dealt with through an opening in this situation; fifth, in a large portion of bursting fractures the line of fracture seek out the mid-cranial fossa, and hence free bleeding from the base can be most easily drained through the temporal fossa by protective drains placed under the temporal lobes; sixth, the subsequent oedema and swelling of the brain, which is an almost invariable sequel of any serious cerebral contusion and which is responsible in many cases for the pressure symptoms during the first two weeks, can be best combated by an opening in this situation in the muscle; seventh, aside from the prompt subsidence of the acute symptoms which are so often seen after these operations, they appear to lessen many of the unpleasant late sequels—traumatic neurases are so often a feature of the cases which have recovered without operation."

Cushing reports fifteen cases with two fatalities both of which he believes were due to not making a decompression on both sides, as post-mortem showed an extradural hemorrhage that could not be easily controlled, and pressure relieved.

This operation can be done with such rapidity, and the scalp heals so rapidly, with so much resistance to infection the patient picks up so little additional risk and his prognosis is so vastly improved, that I believe the operation is indicated in the first twenty-four hours of all bimaxillary fractures, no matter how well they seem to be doing.

Cushing says when in doubt as to the diagnosis, operate, and operate on both sides. I believe he is right in this advice. In other words, you have a case of head injury, unconscious, slow pulse, and possibly irregular breathing, and you are unable to make a diagnosis as to the exact nature of the injury. You do know, however, that you have pressure, and the plain indication is to relieve that pressure if you can, and to do it in the first twenty-four hours.

I will report five of my own cases.

Case 1. J. R., white, age 19. First seen by me afternoon of March 30, 1909, gave a history of having fallen from a telephone pole about 25 feet to the ground, showed a bruise and an excoriation over the lower lip and chin running up the left side of the face, and over the left eye, extending well beyond the middle of the forehead.

The left eye was swollen shut, seventh and eighth ribs fractured at the posterior axillary line, abdomen hard, retracted and rigid. His mental condition was confused, sleeping heavily a greater part of the time, but could be readily aroused. A depression was considered, but postponed on account of the rather severe shock and evidence of internal injury, as evidenced by his passing bloody urine and by his vomiting a large quantity of blood. Later he rallied from the shock, and about the third day began to complain of a severe pain in the right ear, a paracentesis was done, which evacuated a considerable quantity of bloody serum, he was purged with calomel and salts and his condition improved, he laughed and talked and asked for and received light nourishment.

At nine o'clock on the seventh day after the injury, he complained of a severe headache and died five hours after the beginning of this headache. His pressure apparently being due to the oedema of the brain.

During the first twenty-four hours of this man's injury I was kept from decompressing him on account of his severe shock and abdominal injuries. After the first forty-eight hours his condition improved so rapidly that I did not have the nerve to advise a decompression, though I have wished many times since that I had. I believe firmly had he have been decompressed he would not have died.

Case 2. R. F., white, age about 30. Diagnosis: Fracture of the left temporal bone. History: On May 25th or 26th, 1909, while

under the influence of alcohol, received a blow over the left frontal from a monkey wrench in the hands of a drunken companion. Gave a history of having had a conscious interval. Seen by me May 27th, profoundly unconscious, snoring loudly. Operation: Through a split muscle incision, the temporal fossa was opened, and a large blood clot was found and removed, and the middle meningeal artery was tied. The artery was ruptured by a linear fracture running from well up toward the vault, through the temporal bone and into the middle fossa.

Patient left the table in good condition, did not regain consciousness, and died the next day. Post-mortem showed a repetition of Cushing's two fatal cases. A large extradural clot with a linear fracture, and rupture of the middle meningeal on the opposite side, in every way duplicating the injured side, on which the blow was received. Had this man been decompressed on both sides he would have lived.

Case 3. Mike Benton, white, age 23. August 16, 1910, injured by a slate roof in a coal mine falling on his head, face smashed against the floor, both eyes closed. Cut beneath the right eye and scalp over occiput one inch long. Hematoma over right parietal, right temporal and facial regions very much swollen. Nose and mouth full of dried blood, stupid mentally, though conscious, no history of unconsciousness.

August 18th stupor deepened to the point of coma (Tyros) showed blood pressure systolic 125, pulse and respiration becoming more slow.

Operation: Circular incision, flap turned down in order to expose the large hematoma over the right parietal under which was found a clean cut through the bone about 1 inch long and one-half inch in width, out of which was oozing blood and serum, in other words his accident had decompressed him to the extent allowed by the scalp, this accounted for his alarming symptoms coming on as late as the night of the third day. The opening of the bone was enlarged, extending down under the temporal muscle 2 1-2 inches long, dura opened and serum spurted out showing considerable pressure.

Two strips of rubber glove used as a drainage coming out through a stab wound in the temporal muscle, the wound closed with a silkworm gut. In twelve hours he showed considerable improvement, which gradually progressed to complete recovery; left the hospital on the tenth day against my advice, with a small granulating spot at the site of drainage and a pulsating area about the size of a dollar.

Case 4. H. G., male, white, age 18. Diagnosis: Fracture of the base. On the night

of September 5, 1911, was in an automobile accident. Physical examination showed next morning, bleeding from the left ear, a small hematoma over the left mastoid process. A facial paralysis of the left side, a fractured clavicle middle third, a very large laceration and some denuding of the skin over and above the left ilium.

He came out of his unconscious state in the forenoon on September 6, recognized friends and answered questions intelligently. At three o'clock in the afternoon on the same day his unconscious state returned, being more profound; at this time it was impossible to arouse him by shouting to him accompanied by sharp slaps on the cheek. Operation was advised and proceeded with after the manner of Cushing's both sides. Drainage was satisfactory, complete consciousness had returned in forty-eight hours. Convalescence was uneventful. Facial paralysis, evidently caused by the injury to the nerve in the aqueductus fallopii, was uninfluenced. Recovery was complete, after four months facial paralysis had almost completely disappeared.

Case 5. M. M., white, age 18. Diagnosis: Fracture of the base. History: October 8, 1911, jumped from a buggy in a runaway accident, landing on the left lower occipital region, picked up unconscious, brought to me the same day.

Physical examination showed a severe laceration without break in the skin, behind the left ear profuse bleeding from the left ear, from the nose and posterior pharynx, profoundly unconscious, pulse sixty, snoring loudly. Decompression both sides the same morning. Drainage satisfactory, though more on the left side than on the right. After third day had voluntary intervals of complete consciousness, these intervals increasing in length up to the tenth day at which time she had returned to normal. The drains were removed at the end of seventy-two hours and primary union was complete. Is entirely well and has since married.

To recapitulate: The advice to operate practically on all recent fractures, is the extreme of radicalism and is warranted by the facts.

The open treatment of fracture is difficult work, requires a well-developed technique, and team work between the operator and the assistant.

Under favorable conditions the open treatment should be advised as soon as it becomes very doubtful that a functional result will not be had by splints.

Certain fractures of themselves demand the open treatment, depressed fractures of the base, and fractures of the patella.

It is not good surgery to plate many compound fractures, and remove the plates as

soon as a good position is assured.

It is pressure from swelling, hemorrhage, or oedema, that kills the patient in the simple linear fractures of the base.

Decompression is the only indication, and should be done early, (in the first twenty-four hours). Decompression vastly improves the prognosis, and picks up very slight additional risk.

If decompression is done at all, do the operation on both sides, it can be done on both sides in about thirty minutes, or less time.

TOXIC INSANITIES.

By MURTON BOARD, Louisville.

The classification of mental diseases continues to multiply as rapidly as text books upon psychiatry are produced, each author finding fault with the existing classification, for faulty indeed they are, and each thinks himself capable of improving same—a most difficult task.

Krepelin has done much to bring order out of chaos in showing that certain mental symptoms are manifest at one stage of a psychosis and certain other symptoms at a different stage in the same individual, his classification, however, or the lack of it, is confusing to any except a mind that delves deeply into the subject matter, the average student or practitioner demanding a simpler arrangement. The Medico Psychological Association, of Great Britain, has adopted a classification which is in general use in that country. It is remarkable for its clearness and simplicity. Our country being made up of so many states no such general classification has been adopted, although an attempt was made in 1886 by American alienists to bring about some uniformity by the adoption of the English classification with the exception of the form "Moral Insanity" and the addition of the form "toxic insanity." The English classification is as follows:

1. Congenital or infantile mental deficiency
 - (a) With epilepsy.
 - (b) Without epilepsy.
2. Epilepsy (acquired).
3. General paralysis of the insane. (Paralysis).
4. Mania—recurrent, chronic, recent, a parturient, puerperal, senile.
5. Melancholia—recent, recurrent, puerperal, senile.
6. Dementia—primary, secondary, senile, organic.
7. Delusional insanity.
8. Moral insanity.

Notwithstanding this or any other classification, however, mental manifestations con-

time to appear in individuals refusing to be grouped or to remain classified. This has ever been and will so remain so long as the pathology of mental diseases remains obscure.

Mr. A., a young mechanic, is admitted into a Psychopathic Hospital, he is restless, excited, has not slept for a week except as a result of hypnotics administered in heroic doses, he has delusions of various types, talks at random, with more or less incoherence, his memory is perfect, his tongue looks like a bath towel, his bowels are costive. He is treated by active elimination, he is separated from his home and business environments for a period of some six or eight weeks and recovers. A recurrence is apt to appear in one or five or twenty years, but may never appear. He marries, has a family and leads a comparatively useful life.

Mr. B., a young bookkeeper, is admitted to the same hospital in the same week. He manifests practically the same symptoms, he is given the same treatment by the same doctor, handled by the same nurse, yet after passing through the stage of excitement and becoming quiescent, his delusions continue, become fixed. He is classified as a paranoiac and eventually becomes demented.

Why the difference in the outcome of the two cases? Because of the difference in the pathology but what that pathology is in either case is difficult to determine. We only know as clinicians that what happened in these two cases is going on all the time in every institution where the insane are treated in the land.

Toxic insanities are a most interesting group of psychic disorders because they are the most curable in a number of instances. I shall divide them into two groups:

1. General Paresis.
2. Confusional Insanity.

The latter will be sub-divided when we come to treat of it after we have directed our attention to the first type.

GENERAL PARESIS.

Paresis is a form of insanity in which there is a mental disorder of several types accompanied by progressive paralysis. It is a disease of the brain and spinal cord usually characterized by maniacal symptoms in the early stage followed by mental failure and physical helplessness. Paresis has been called by Krafft-Ebing a disease of syphilization. It was extremely rare a century ago though probably more cases existed than were noticed. I have never seen a case where a history of syphilis did not exist, though its association with chronic alcoholism is so common as to lead to an opinion that alcohol may produce the disease in a neurotic individual. It is quite common among people of civilization, being most common in Europe and

America. It is rare in Africa and Asia but is quite common among the American negroes. While it is a toxic insanity in that it is due to syphilis and at least aggravated by excessive alcoholic indulgence, yet it is degenerative also, that is, it has its origin in a neuro-pathic constitution as indeed have most mental diseases. It is more common in men than women in the proportion of five to one, though the disease is becoming more common in women. Mental strain, excesses of all kinds act as predisposing causes, but the consensus of opinion is that two elements are essential to the existence of the disease, namely, the neurotic condition and syphilis.

SYMPTOMS.

The disease can be divided into two or three stages,

1. A period of incubation, which is not a true stage,
2. A stage of maniacal activity,
3. A stage of mental enfeeblement and physical helplessness.

Sometimes, however, the prodromal stage is insidiously followed by a period of depression or melancholia from which the patient passes into a stage of mental and physical helplessness without any, or very little, excitement. As a rule, however, a period of excitement exists which is sometimes very violent. A diagnosis is generally made at this time. In a typical case a period of irritability with a patient easy to fatigue together with forgetfulness ensues, this is followed by a stage of excitement in which a man formerly retired and cautious becomes talkative and indulges in excessive speculation, feels fine, cannot be controlled, imagines he is rich and has great schemes for enriching others. After confinement in an institution for a time the excitement subsides and the patient seems almost normal but in a few months signs of dementia appears, memory becomes weak, speech and writing incoherent, pupils react badly to light, knee jerks are frequently abolished. In the second stage some of the symptoms of the period of excitement may remain, but they flicker as a candle. The disposition to fight when opposed is ever present until a condition of general helplessness ensues. Finally complete prostration is present, the patient has to be cared for like a child. Death results from exhaustion frequently preceded by convulsions. The latter may appear at a earlier period of the disease and may be epileptic in character.

DIAGNOSIS.

Several types of paresis existing the diagnosis is not always easy, besides cases of syphilitic pseudo paresis and alcoholic pseudo

paresis are described, both these conditions yield to treatment.

With a history of syphilis, facial and tongue tremor, irregular pupils and knee jerks, disturbance of speech, weakness of memory, not much inclination to work, irritability, change in hand writing and a general lowering of moral idens, the diagnosis may be made early, in the latter stages the diagnosis is easy.

PATHOLOGY.

The disease being due to syphilis, syphilitic lesions will be shown in the brain and cord. Thickening of the membranes and vessels with cell degeneration. The dura is thickened, the brain itself atrophies, the cerebro-spinal fluid is increased, the other membranes of the brain are thickened.

PROGNOSIS.

The prognosis is invariably bad, though improvement will appear after the stage of excitement in most cases. The disease terminates in from two to five years.

TREATMENT.

A quiet life in an institution is indicated in the early stages, anti-syphilitic treatment is generally given but is of little value in true paresis. As the disease progresses confinement and proper care are about all that can be done.

CONFUSIONAL INSANITY.

Dana divides the different types of Confusional Insanity into three groups:

1. Exhaustive psychoses,
 - (a) Collapse delirium,
 - (b) Acute dementia, primary dementia, dementia, acquired dementia.
2. Infection Psychoses,
 - (a) Febrile delirium,
 - (b) Multiple neuritic psychosis.
3. Toxic Psychoses,
 - (a) Alcoholic insanities,
 - (b) Drug insanities,
 - (c) Auto toxic insanities including thyroid and myxoedematous.

In this field the psychiatrist does his greatest good and makes his reputation for most of these types respond rapidly to treatment and in the course of a few weeks or months at most, recovery takes place. I have not time in a paper like this to go deeply into these different types, but will say that if the profession will learn to recognize these cases, or, if doubt exists, as it often will, give the patient the benefit, give him a month or two of individual attention, recovery will generally take place and the stigma of asylum commitment be avoided.

The patient in these cases suffer from some form of infection. It may be pneumonia, la

grippe, typhoid fever, puerperal sepsis, long continued alcoholic indulgence or the irregular use of morphine or cocaine. As the febrile state subsides the mental symptoms appear. It may assume the form of acute delirium, hallucinations and delusions appear, sometimes the patient is dull, sometimes noticeably excited. After a few days, at times, generally a few weeks, often several months, the excitement subsides, the delusions disappear, but for some time the patient is dull, memory weak with depression a chief symptom. Occasionally, recovery does not take place, a state of chronic apathy or depression exists throughout the remainder of the patient's life. As a rule, however, as I stated before, recovery ensues.

TREATMENT.

Hydrotherapy ranks first, hot and cold water properly applied is worth everything else that we do, elimination by the bowels and kidneys ranks second. Sedatives other than preparations of opium, which should not be used at all, rank third. Other treatment is symptomatic. Proper feeding is highly important as death can result from exhaustion and the heart must be closely watched.

The field is intensely interesting because tangible speedy results are obtained. I would call attention briefly in closing to two conditions mentioned in the group of toxic psychoses because of their immense importance. I refer to morphinism and alcoholism about which much is written and about which the voice of the charlatan is "heard in the land." I shall discuss them in the order named.

I.—MORPHINISM.

Morphinism is a psychosis. Every habitual user of the juice of the poppy is insane and ought to be so considered. I go further and declare that every confirmed morphinist ought to be confined, under the statutory laws of the state, in an institution where they will be properly treated, in many instances restored to society which will be protected from their baneful influence and example.

The number of drug users is increasing to an alarming degree. One morphinist frequently occasions another, as witness the husbands and wives addicted. This condition frequently grounded in a constitutional neurosis is not a habit, is not a criminal propensity, though it may be associated with it. It is a disease—a deep-seated one and cannot be easily eradicated. Earlelmyer, perhaps the greatest authority on the subject, says that the prognosis is absolutely bad. He is not far wrong for it is certain that months of treatment and years of watchfulness are required to save an individual once a chronic victim of morphine. It is not necessary to

stop to condemn the various quack institutions and cures which have sprung up all over the country, purporting to give rapid and painless cures to these victims in the past quarter of a century. They have not all combined cured one chronic morphinist. That the laity would be caught by the alluring advertisements of these quacks is not surprising, but that members of the medical profession would be duped thereby, is appalling. Whatever is done in the management and treatment of these unfortunates that is really good will be accomplished by the ethical scientific members of the profession, men like Crothers, of Hartford, who are willing to devote their lives to the study of this great question.

ALCOHOLIC INSANITY.

Toxic insanities due to alcohol differ but slightly from other confusional types responding rapidly to the same care and treatment and generally ending in a few days or weeks in recovery. Delirium tremens requires careful nursing and close watchfulness on the part of the physician, as death from heart failure is apt to occur. The chronic alcoholic is very little different from the morphinist, frequently a neurotic individual to begin with he succumbs rapidly to social influences and soon reaches the point where a true psychosis begins. Here again the so-called quack cures are a failure. A few days or a few weeks spent in getting sober is merely of temporary benefit. The condition is probably curable in many instances, but months are required and a complete change of environment essential to a cure that gives any reasonable promise of permanency.

ECLAMPSIA.*

By EDWARD WILSON, Pineville.

Eclampsia is one of the most alarming, as well as one of the most dangerous conditions with which the general practitioner has to deal. It occurs about once in every three hundred cases of labor. Its mortality varies from 33 to 67 per cent. in different hospitals and in the hands of different physicians.

The causes of eclampsia are first, the excessive nervous irritability of pregnancy; second, the retention in the system of urea, also anything which causes pain or discomfort, such as distended bladder or labor pain.

The treatment of eclampsia is the use of remedies to relieve the causes, the greatest of which is morphine, it controls the nervous irritability and relieves pain; second, is purgation, warmth to the surface, and usually forcible delivery, my cases of eclampsia are as follows:

First. Patient eighteen, married at fourteen, convulsions at full term, gave her half grain of morphine hypodermatically, did a forcible dilatation, delivery by forceps under chloroform, patient and baby both lived.

Second. Patient seventeen, married, sister to first case, five months pregnant, gave her half grain morphine hypodermatically, examination showed cervix not obliterated, put her in a warm bed, gave saturated solution of epsom salts, every half hour till bowels moved, convulsions stopped, gave her calomel, four grains every week, salts every day, diet limited to milk and crackers, at the end of six weeks albumen suddenly decreased, two weeks later she was delivered of a dead foetus by Dr. L. D. Hoskins. She still lives. The father of the two women died of Bright's disease.

Third. Three convulsions, great deal of anasarca, weak pulse, undertook to deliver her, she died in the operation under chloroform. Did not give her any morphine.

My idea is the treatment suggested above, with forcible delivery after seven and a half months' pregnancy, or before if cervix is obliterated, or os dilated.

ALCOHOLISM.*

By T. T. GIBSON, Middlesboro.

By alcoholism, we understand a series of morbid phenomena that are directly due to the toxic effects which result from the excessive and prolonged ingestion of alcohol, which may be divided into three stages; viz.: Acute alcoholism, or drunkenness; (2) Acute alcoholic delirium, or delirium tremens; (3) Chronic alcoholism, habitual drunkenness, or inebriety. The last division of which I will attempt to discuss in this paper.

ETIOLOGY.

A great per cent. of the inebriety of our country is derived from good fellowship and sociability which leads the weak-minded and ignorant to continuously overload their system with intoxicating beverages. Other causes are worry, anxiety, insomnia, disappointment, and domestic unhappiness, and many other conditions which induce the individual to seek relief in alcoholic beverages. The man takes the first drink; the first drink takes a second, the second, a third, and so on, until the system absorbs so much alcohol that it is beyond his power to resist the temptation of a drink—the alcohol in his system calling for more alcohol—thus we call him an inebriate, a chronic drinker or nervous wreck.

The influence of heredity upon alcoholism is a very interesting question. In my opinion it is as impossible for a child born of an inebriate mother or father to inherit an uncon-

*Read before the Bell County Medical Society.

*Read before the Bell County Medical Society.

trollable desire for alcohol as it is for a child born of a morphine habitue to inherit an uncontrollable desire for morphine, however, it is true that the child born of an alcoholic mother or father may inherit an unstable nervous system—one that does not maintain its normal equilibrium—that responds unduly to the ordinary wear and tear of existence—that does not possess sufficient vitality to give to the body the tone and vigor that is required in the ordinary performance of body functions. With this defective condition throughout the central nervous system, this lack of normal equilibrium, it is perfectly possible that the child, in the environment in which it is likely to live, may become addicted to the use of the alcohol or anything else that is equally available.

MANAGEMENT.

In the management of inebriates, we have to deal with different classes: Those who drift into chronic alcoholism unintentionally and without any definite purpose in view, and who come to a physician for help with evidence of a fixed determination that they want to get rid of their disease, can usually be handled with good success outside of an institution. Others without character, drifting selfishly through the world, without rudder, compass or objective point are, almost without exception, hopeless outside of an institution and often hopeless even in an institution. Private institutions often obtain splendid and lasting results, but in the majority of cases patient cannot be kept for a sufficient time in order to prevent subsequent relapses. State institutions for inebriates is a matter which has been sadly neglected by not only our own Commonwealth but by the majority of the states in the union. The expense of such an institution, with proper provision for the care and treatment of inebriates, would be more than saved within a few years, by a lessening of the number of unfortunates who to-day overcrowd our jails, work-houses, penitentiaries, insane and other asylums. The saving to such unfortunate families and to future generations, would more than justify such expenditure.

TREATMENT.

In treating these cases, we have no state institution to take care of them and the vast majority of them are financially unable to attend a private institution. Under such conditions, the medical profession should awaken to the importance of cause and effect and cognizant of the obligation that we owe our fellow-men, should strive to bring the matter of a state institution before those at the helm of our State.

In the medicinal treatment of these cases, I absolutely discontinue alcohol at once, giv-

ing them plenty of good nourishing food and sleep, being careful not to overtax the nervous system. In my opinion, free elimination of the poison from the system is a very important factor. For this purpose, I have used compound cathartic pills, one every three hours until five have been taken, followed with tincture of belladonna and fluid extract of xanthoxylum with an increased dose, repeating the fourth day four of the pills, one every three hours, following again with the belladonna and xanthoxylum, then a round of the pills once a week for several weeks, then every two weeks, then gradually leaving them off, not forgetting the important fact of encouraging your patient with kind words and good moral lectures, explaining to him that this treatment will remove from him that uncontrollable desire for alcohol; that he himself must be a man morally and fight for himself against the good fellowship and sociable drinks, lest he satiate his system and be overcome again with that uncontrollable desire for the same poison.

HOOK WORM DISEASE.*

By B. E. GLANNINI, Straight Creek.

Hookworm disease is a disease found especially in warm weather, it is due to certain species of hookworm, the ankylostoma duodenale, old world hookworm, sometimes called "meimaria duodenalis" and "nector Americanus," new world hookworm. Warm mines and damp earth offer favorable conditions for hookworm disease, people who come in contact with water containing larvae of the parasites are easily infected. The disease is recognized by the discharge of the ova of the worms with the feces by a progressive anemia, general weakness, impaired development in young subjects, also digestive, nervous and circulatory symptoms. We have what is known as the hookworm carrier, a term applied to persons in whom hook worms live as parasites, but who either from small number of worms, from race immunity, or from other causes do not develop obvious symptoms.

HISTORY.

The history of hookworm disease is identical, as we now know, with that of cases described in various tropical countries, during three centuries, viz.: Pise, in Brazil, (1648); Father Laba, in Guadeloupe (1748); Bryon Edwards, in Jamaica (1799); under various names given in the list of symptoms, viz.: anechilosomanemia (Italian) ankylossomen (German); Egyptian or tropical chlorosis, tunnel-maker's anemia, tunnel disease, brick-makers' disease, mountain anechlexia, mountain

*Read before the Bell County Medical Society.

anemia, miners' anemia, miners' cachexia, negro consumption, the yellows.

The synonyms of hookworm disease indicate the wide range of symptoms and the extensive geographic distribution as shown by the diversity of languages.

In the early centuries hookworm disease was not truly understood and often wholly misinterpreted, and this continued up to a recent period, the discovery of the first hookworm had little, or no, influence on clinical study. Certain disease described by older writers can also be explained now by hookworm disease. Anemia was striking symptom, and the epidemics of miners' anemia in 1786, in Hungary, where more than 1200 miners were affected, there were similar epidemics between 1802 and 1820, in the mines of France, Hungary and Bohemia. Hammerschmid noted that the disease differed from ordinary anemia, or chlorosis, that it represented a disease and that the explanation by the mine climate, or vitiated air, was not satisfactory.

In 1838 Dubini, an Italian physician of Milan, first described hookworm disease; since then many other observers all over the world have described the disease and added a great deal to Dr. Dubini's discovery. Dr. Stiles quotes Joseph Pitt, 1808, as the earliest author he has found to refer to the disease in this country. Pitt described dirt-eating among poor white people and negro slaves, and thought it was due to lack of nonrish-bent. But it remained for Dr. Stiles, himself, to make a thorough research, which resulted in his discovering that the entire South was infected with hookworm disease.

Dr. Stiles found his first hook worms in Virginia after which he made extensive investigations throughout the entire South, gathering all the information he could and adding his own personal work to it. Dr. Stiles' timely investigation of hookworm disease opened up a new field of work, that is today being investigated and treated all over the South, and I may say, cured.

HOOKWORM DISEASE IN KENTUCKY.

In the fall of 1910, the Surgeon General of the Army gave out the information that recruits from Kentucky were infected, after that Dr. L. H. South started a systematic investigation and she is now able to show that hookworm disease exists in fifty-five counties in Kentucky, and that the mountains of Kentucky are heavily infected. Dr. South is covering the ground thoroughly in Kentucky, and it is our duty as physicians to cooperate with our State Board of Health, in this fight against the hookworm or the "American murderer." In Kentucky it has been shown that the infection is much greater in whites than

in the negro. Some of our wealthiest and best educated people have been found to be infected with hookworm disease.

CAUSES.

We find two kinds of hookworm, the new world form called "Necator Americus." (Dr. Stiles named the new world hookworm the "American Murderer.") The old world form is called the "Achylostoma Duodenale." The new world hook worms are slender worms varying in color from a dead white to a dirty gray and sometimes slightly red. From ingested food the worms are about one-half inch long, and about as thick as an ordinary hair-pin, of course varying according to their age. The worms inhabit the bowels and are sometimes found in the stomach. The new world hookworm, as described by Dr. Allen J. Smith, is provided with a "dorsal conical-shaped tooth" in the median line and the upper or buccal cavity of its head contains the ventral lancets, which are not exposed; the lower lancets are small and conical, with the tooth in the median line and with his strong jaws he is able to attach himself to the mucous membrane of the bowel; the lesions produced by the attachment of the worms are usually a dark red or slate-colored pigmentation, the lesions are usually the same level as the surrounding tissues, yet they may be nodular in character. In the midst of the red area is a small pale elevation at the summit of which the worm may be seen adhering, or the hole caused by its bite after the worm has fallen away. The worms suck the blood, and produce a poison which is very injurious to the person affected, and this poison is believed by some observers to be largely responsible for the anemia found in these cases. The quality of the blood is reduced by the poison, digestion and assimilation is impaired and a general physical and mental weakness follows, which in turn predisposes to other diseases and a lack of development in young subjects. The general disregard for sanitation in small towns and in the country, plays an important part in the causation of hookworm disease. With the general disregard for good sanitation and the open privy, and the cats, dogs, hogs and chickens eating the feces of hookworm subjects and in turn scattering their droppings around over the premises and farms, you can readily see how the hook worms ova are scattered from these unsanitary privies, and it has been proven that hook worms do not hatch in the bowel.

MODES OF INFECTION.

The most frequent mode of infection is through the skin. Dr. Loose, in 1898, proved this by experiments and accidentally infected himself while experimenting with the larvae. The larvae penetrate the skin in a

very short time; and with remarkable power they plough through the tissues. They continue to penetrate the tissues until they reach the capillary blood vessels, once in the blood stream they are carried to the right heart, from the heart they are carried by the blood stream to the lungs. Here they are caught in the capillaries, because they are so much larger than the smallest capillaries of the lungs and can not pass through. Meeting with obstruction they again penetrate the tissues and soon are into the bronchial tubes. After the larvae reach the bronchi they are carried to the mouth either as a result of the normal, constant, outward current of bronchial and tracheal mucus, or by coughing. No doubt many of them are spit out, but some are swallowed, according to whether the individual spits out what he coughs up or not, of course habits vary a great deal in this regard, as is well known, and this is an important factor in determining the extent of infection, and in view of this it seems wise to advise patients with "ground itch" not to swallow any sputum at all. Another mode of infection is food that has been contaminated with infected mud or water, or that has been infected by persons handling the foods that are infected. Vegetables, such as lettuce, celery, and strawberries, and others that are eaten raw. In this way the larvae are swallowed and are carried into the stomach and bowels. Drinking water may become a source of infection, but the probability of getting any considerable number of the larvae in this way are very remote and is given very little attention. Experiments by Bass and others show that the daily stool of a patient infected with an average number of worms will pass anywhere from 1,000,000 to 4,000,000 eggs daily. In the light of these figures the wonder is that the disease is not far more destructive of human life than it is.

SYMPTOMATOLOGY.

In considering the symptoms of hookworm disease we have three classes of cases to consider; namely, slight cases, moderate cases, and marked cases, and we will find the symptoms vary according to the severity of the infection, and the general condition of the patient. Some patients are more able to resist the disease than others. The first class of cases, or the slight cases, present very few symptoms at all. You will usually find a little pallor of the skin, or a slightly yellow tinge of the skin, a reduction of perspiration. The appetite may be very slight or in some instances ravenous. A little uneasiness is usually felt in the epigastrium, and an occasional attack of gastralgia, at odd times a slight breathlessness, on exertion, occasional palpitation of the heart, dizziness, headaches, lack of

attention to details, and a little dulling of the mental faculties. Some cases show a slight flabbiness of the muscles and weakness and an indisposition for labor exists. The hemoglobin of such persons generally lies between sixty per cent, and normal.

MODERATE CASES.

In moderate forms all of the symptoms noted in the slight forms are more prominent, the pallor being definite, dry skin, sweating is rare; appetite may be exaggerated to the point of bulimia, or it may be just the reverse. Often tenderness of the abdomen and epigastrium and oftentimes a sensation of heaviness. Breathlessness, palpitation of the heart is frequent, pulse more rapid, may be weak and compressible, pulsation of the neck is often marked. Often pain in the sternum and chest, and a feeling of weakness in the knees and legs. If the infection occurs in the young a lack of development of the child is noticed, both physically and mentally. In the early stages of the disease "ground itch, toe itch, or what is commonly termed dew itch or poison, is found upon the feet and ankles and nearly all cases give a history of having had some of these troubles. The face may have an anxious expression, or one of stupidity. The patient complains of dizziness, nausea, headache and noise in the ears. The mental condition is depressed and the patient appears stupid, the patella reflex is usually diminished, but may be exaggerated, the feet tingle and often "go to sleep," the muscles are flabby, and often painful, joint pains are common, and may lead you to suspect rheumatism, work is undertaken with great effort. Hemoglobin is apt to be between 30 and 60 per cent.

MARKED CASES.

In this class of cases we find that pallor is in the extreme, edema of feet and ankles, and sometimes extreme anasarca. The patient may have no desire for food at all and again it may be next to impossible to satisfy the patient. The fact that these patients have a desire to eat abnormal articles of food, is why these poor unfortunates are termed dirt-eaters, many of them will eat flour, ashes, pepper, salt, chalk, decayed wood, charcoal, mortar and plaster, paper, cloth, tobacco, dirt and clay, sour pickles, lemons or anything sour. Heartburn is a common symptom and it is claimed by some observers that many of these patients get in the habit of eating these things to relieve the heartburn and the pain in the epigastrium. Nausea and vomiting are frequent. Ascitis is liable to appear. Diarrhea or constipation may be present, dyspnea, on slight exertion, and often when patient is quiet, severe palpitation of heart, precordial pains, rapid, weak compressible pulse, and of-

ten dilatation of the heart, marked pulsation of the blood vessels of the neck, impotence in men and amenorrhoea in women, intellect dull, patient seems confused and stupid, the facial expression is of melancholia and anxious, the urine has a low specific gravity, is abundant in quantity, usually no albumin, extreme weakness and the patient has arrived at a stage where the case may have a fatal termination at any time.

DIAGNOSIS.

To make your diagnosis clear it is necessary that you find hookworm eggs in the feces of your patient. While you may find many cases with symptoms that will lead you to a diagnosis of hookworm disease, a history of having had ground itch, or toe itch, and the patient presenting the pallor and anemia with lack of development, palpitation of the heart, indigestion and a feeling of uneasiness in the abdomen should lead you to suspect hookworm disease and make repeated examinations of the feces, which, of course, will clear up all doubt and make a diagnosis certain. In making your diagnosis, however, it is well to have in mind pellagra in its incipient form, as some of these pellagra patients will present a general weakness together with the tired feeling and anemia and indigestion before there is any eruption at all. One patient I have in mind complained that he had no desire for water and had an increased flow of saliva, also suffered from insomnia for several weeks before the eruption appeared on his hands, and in this connection I wish to state that after observing several cases of pellagra in which I found hookworm disease, it occurs to me that hook worms, in some remote way, may be a factor in the etiology of pellagra, either by the general weakened condition of the patient and the anemia, or the irritated condition of the bowel, produced by the worms or by the absorption of the toxic substances generated by the worms themselves.

TREATMENT.

In considering the treatment of hookworm disease it is well to consider the treatment of ground itch and toe itch; although it is not often that patients consult doctors with toe itch unless it is in mining camps. They usually apply some patent salve or home remedy, but we, as physicians, should teach the laity the importance of this trouble and advise them in regards to spitting out all sputum after having had toe itch, or ground itch, vesicles on the feet should be opened freely and washed with a carbolic acid solution about 1 to 40. The ulcers will leave in about eight to ten

days in most cases. A good salve to use is R.

Carbolized Salve 1-2 ounce
Zinc Oxide, Ointment 1-2 ounce
Balsam Peru 1-2 dram

Mix. Apply locally twice daily, also bathe the feet in hot water, it seems to hasten healing and keep the feet bandaged.

Several remedies are used to expel the worms. Thymol is most generally used in America and England. The dose of thymol given should vary, of course, according to the age and condition of the patient. Drs. Ashford and Kings' dose table is a good rule to follow although I have gotten good results from smaller doses. This table is as follows:

Under 5 years old in size	 7 1-2 grains
Five to 10 years old in size	 15 grains
10 to 15 years old in size	 30 grains
15 to 20 years old in size	 45 grains
20 to 60 years old	 60 grains
Over 60 years old	 30 to 45 grains

Unfavorable conditions such as extreme anemia, pregnancy, great weakness, cardiac depression, and diarrhea may require still smaller doses. The doctor should be the judge. The most convenient time to take the treatment is on Saturday and Sunday. Dr. Nuckols and myself have had about one hundred cases at Straight Creek, and our plan of treatment has given us good results. We give on Saturday 5 grains of ammonia chloride, every two hours, until 30 grains are given. At bedtime 5 heaping teaspoonfuls of Epsom salts and withholding all food and only allowing our patient a cup of coffee without cream if very hungry.

On Sunday,

At 7 A. M., we give 10 grains thymol
At 8 A. M., we give 10 grains thymol
At 9 A. M., we give 10 grains thymol
At 11 A. M., give 4 teaspoonfuls Epsom salts.

Keep our patient in bed, on right side, with hold all food and allow very little water. After 5 o'clock patient can get up, eat and drink as they please. I believe tonics, such as iron, arsenic and strychnia, are indicated in these cases. But even after you have given a treatment of thymol and gotten good results, an examination of the patient's feces should be made from time to time. You may not have gotten all of the worms or your patient may have a second infection.

Iodin in Exanthematous Typhus.—Uffengaufer reports fourteen cases which added to Jaworsky's forty-one brings to fifty-five the number of exanthematous typhus patients treated with tincture of iodine internally, three or four drops three or four times a day, taken in red wine. The disease was unmistakably modified by the medication and evidently much for the better in the entire group, he says.

PROPHYLAXIS OF SPECIFIC DISEASES BY LEGISLATION.*

By T. L. LAMPKIN, Bardwell.

As your retiring president, I have selected this subject to give you a few moments thought of the worst plague that human flesh is heir to, and one that should have our most ardent consideration.

This is not a pleasant topic for discussion, but it is infinitely better to discuss it freely than to permit unfortunate and helpless children and women to be tortured by such horrible diseases. It will be difficult, however, to convince the American people that it is not an infringement of personal liberty or a violation of the Constitution of the United States for medical men and boards of health to compel the people who have not the knowledge of the danger and the contagion of these loathsome diseases, to keep their children clean and pure, and to prevent them from spreading these diseases among others.

Gentlemen of the society, the question of venereal diseases is of great moment in this country, and especially in army and navy. The time lost to the military service by sufferers with this class of diseases is far greater than from any other one disease. The world and the medical men of this country are opening their eyes to the ravages of these diseases now, more than ever they did in any previous history of any disease.

We will not discuss the pathology here, as you all are acquainted with the two diseases, and to enter into a lengthy description of them would consume too much of your valuable time, knowing that every doctor knows what the specific diseases are. You all know the danger of the infection, the susceptibility to its contagion, the dreadfulness of its results to public health, and the sufferings and deaths we encounter each year. Nature has been prodigal in her gifts to our nation. In no respect has she been kinder than in opportunities for health and efficiency. Her very proclivity has rendered us careless and extravagant. It is high time that physicians and Americans do as well for themselves in health protection at home as they have done for themselves and others in Cuba and the Philippines.

This demands the creation and maintenance of official organizations. We should help to extend and replace the work of our organizations, whose lack of authority prevents complete success.

In 1912 there will meet in Washington by the invitation of the President and the Con-

gress of the United States, the International Congress of Hygiene and Demography. This congress meets triennially in the Capitals of the world and brings together the leaders in health conservation.

If they do as before, they will put all their massive minds to work on the prevention of measles, diphtheria, typhoid, scarlatina, smallpox and the plague. Yet, not one word has ever yet been raised against the worst infectious diseases, the worst plague the world knows anything about, viz.: the specific diseases.

There has been much written on the prevention of certain diseases of the South, such as smallpox, yellow fever, and such like, that never affect the North. Climate has largely to do with many of our infectious diseases, by gonorrhea and syphilis are two diseases that climate does not affect. The North, South, East, West, and in fact the whole world is subject to them, and, by the way, we have it sattered all over this wide, wide world. Nearly every person who has arrived at the years of responsibility knows something of these dreaded diseases in every land and country of the universe. Why not we, as medical men of this grand and glorious country, be the first to start a campaign of warfare to have these two dreaded diseases quarantined as all other infectious diseases?

The medical journals are full of literature on prophylaxis of venereal diseases, but, if you notice they all are recommending some drug that will cure the disease. When we got "606" into circulation, we thought the Jesus of remedies had arrived, and we could pollute ourselves to any excess, and to the vilest cases, without the least doubt of infection when we applied the divine "606". But alas, after a while, came the reports to bring the sad news to us that "606" is dangerous, it is uncertain, and there are many complications, and in the true fact of experience, it is not any more safe than the old-time forms of mercury.

Now, what are we to do? Only sail back to our old sea of trouble and danger. When the claims for "606" were being widely heralded through the daily press, I was amused and disgusted at the attitude of certain well-meaning people, and some doctors, who spoke of the new discovery for syphilis. They thought it was a positive and deadly menace to the mortality of the country; that the victim of syphilis now had a positive cure, and no fear to keep him in the narrow road of chastity, he could roam the sexual fields the balance of his life, and if "caught" could get immediate relief. Such thoughts are only evidence of the deepest and most dangerous ignorance, for the principal suffering from venereal infection is not the original sinner, but the in-

*Read before the Carlisle County Medical Society, Bardwell, and the Southwestern Kentucky Medical Society, Paducah.

nocent wives and children, there is the rub?

Now they have "606", or Salvarsan, reaching as scripture, viz.:

"Salvarsan, thou great and potent gift of the gods; thou who shinest brightest to him of dead future; thou cleanser of tainted tissue; thou saver of innocent victim of its father's forgotten lust; thou to whom arise the prayers of the multitude; thou who has led the polluted one out of the swamp of lost hope to the land of cheer, and found for him a place among men; thou who makest poison in the veins without harm; thou who makest deep sores heal, and vile scales from the body fall; thou who doest all things, and doest them well, to thee, oh Salvarsan, we make our most humble and grateful obeisance, but remember or mighty Salvarsan, remember thou well, that thou hast to make good or thou wilt be cained and sent to join the silent host of other good things that thy land hath handed us before. For verily, verily I say unto thee, forget thou not we live in Missouri, and thou has to show us."

In my correspondence with boards of health, to compile some statistics on venereal diseases, I learned from Dr. Kerr, of Texas, that there are frequent cases of gonorrhea found in colored children as young as four and five years in the South, and the April *Bulletin* of the Indiana State Board of Health reports the finding of positive gonorrhea in smears from two white girls each 8 years old and living in different parts of the State, and one living in the country. God only knows how many more cases were neither reported nor recognized, for none of us would suspect such infection at such a tender age.

We wonder how these children could become infected, and I will answer with one whack at the demon; it is because we are allowing venereal poison to get too strong a hold upon this country.

Very many young children have a crude idea of sex, an idea far more complete than is suspected, and at the same time filled with absurd notions, and there are far more playful attempts at coition among them than is at first supposed. And there are many women who seduce lads of tender age, like that street fair woman that was here last spring, of 30 years, who had persuaded a boy of 14 years old from a neighboring town. Some wish to avoid the danger of impregnation, some from strange sexual perversion, and of this class we find many of those known as clandestine prostitutes, women of seeming respectability, who are chaste as ice to the home folks, but who consort with the drummer and other transient strangers.

These women pass infection down to the lad, who in turn contaminates the little girls,

I am giving you these combinations as one of the probable manners of contagion, and there are many other ways it can be done, for I do not believe that in the main, that genital gonorrhea are contracted only by sexual congress, while syphilis can be contracted in many other ways. Rural routes, the telephone and the automobile are rapidly increasing the danger of venereal infection to our rural towns and to the country, so that to-day there are to be dangers in our rural communities. Infected women not even suspecting their condition, spread the poison without restraint.

However, the cities are the dreaded hot-beds for these diseases. In 1901 the physicians of New York reported their cases of the two venereal diseases, and while under such a system of reports many would escape notice, there were reported a total of more than 800,000 cases. Think of this. That means that one person in every five of that population suffered from this infection. Besides, those others who were not noted, may amount to a like number.

When we know that 80 per cent of the women who are sent to the operating table for the rapidly increasing pelvic surgery, are so sent as the result of innocent contamination, and that too, without their being enlightened as to the cause of their suffering.

When we pause to consider the countless multitudes who suffer in silence and in ignorance of the cause, it seems that the doctors of this country should educate the people, so they may be awakened from this state of lethargy which, like a vampire, is sapping the vitality of the nation.

There is an old book that tells of those who "Strain at a gnat and swallow a camel," and that is exactly what we are doing when we report the trivial contagious maladies, and then sit still and suffer the arch enemy to creep his sly trail without warning, and through a false idea of ethics, hide his tracks, to the best of our ability.

We notice that some of our states pass laws that require applicants to secure a health certificate before a marriage license can be issued, that he is free from venereal disease. That is a good law as far as it goes, but we all know that any good fellow has a doctor friend that will doubtless issue this certificate without ever making a thorough examination.

While this is a good law as far as it goes, but should not the man who is ill with the venereal diseases be quarantined till he is well, and then it will be far more safe for all concerned.

The Rittenhouse tables show that death from obscure forms of heart, brain and kidney affections has increased 131 per cent.

since 1880, and the same results were shown by the Yale Hospital investigations, and that these conditions are mainly gonorrheas of long standing.

What Germany has done for smallpox, what our Government has done for yellow fever in Cuba and Panama, can be done with this worse scourge of the human family by quarantining as we have done with smallpox. All that is required is that we shall cease the false "damning prudery" that acts like a silly ostrich, which hides her head in the sand and thinks herself safe because she cannot see her enemies.

Suppose we had waited to educate the people before we passed laws for the quarantine of smallpox and yellow fever. It would have been several centuries before we would ever have suppressed these diseases. So it is with venereal diseases, we can't afford to wait to educate the people, for they do not understand the danger, the risks they encounter each year, and the disease will keep spreading faster, as time passes swiftly by, from one generation to another. We who are in position to know what the country needs, should have such laws passed to protect the people and give them the best protection for their health and comfort that medical men can advise.

It is a sad mistake to think that only certain people that are in the low walks of life have gonorrhea, for nine men out of every ten have it, or have had it, or will have it, and physicians desire as much as possible to treat the best people. They do not care to be called the 'Clap Doctor.' It does not have as high ring as most doctors like. It is hard to cure, and our patients will not stay with us till they are well cured, and they will go off to some quack or druggist where they can get it cured (?) cheaper.

Eighty per cent. of the married men in New York, are said to infect their wives with gonorrhea at some time, and women, married or single, put off going to the doctor with this disease for various reasons, and they go along treating themselves till the disease passes into the cervix, and female organs, and then land on the operating table for the last resort for health.

Venereal diseases are responsible for more invalid women than any other one disease. It is causing more childless women, and more suffering than any other one disease. When I think of the innocent wives who are made invalids, and the innocent and helpless children made blind, by these terrible diseases, it makes me shudder, and cry, "My God! my God! why hast thou forsaken us."

If people knew about these things they would avoid them more, for no remedy is as good as prevention; but as long as people

whisper around that gonorrhea is no more than a bad cold, it will help to lend a helping hand to spread all forms of venereal disease.

Why will the public be so concerned about smallpox and yellow fever, and look with so little consideration upon venereal diseases?

Such conditions in live stock would not be tolerated by any self-respecting farmer of Kentucky. A striking corroboration of this fact is found in a recent number of the Louisville Times. Ten head of beef cattle shipped from Owensboro, Ky., to Buffalo, N. Y., were found by the government inspectors to be infected with itch. The Government's inspectors did not wait to examine the Federal Constitution, they did not consider that the personal liberties of the cattle or the citizens of Daviess county were being infringed upon; they did not stop to quibble about state rights. They asked at once, what steps Kentucky would take to stamp out the disease. The right of the Federal Government to protect the live stock of the country against infection is conceded by all.

Yet in one city last year 400 school children were found suffering from lice, and not one statutory law could be found to prevent the condition. The only thing that could be done, was an organized attack as an unwarranted invasion of personal liberty, to have the school inspected.

What is the stage of civilization in a nation which uses the whole force of governmental authority to prevent itch in cattle, but which hesitates to protect its school children lest it be said that individual liberty is thereby trampled on. We can only exclaim, "Oh, liberty, how many crimes are committed in thy name."

Seriously, is it not time we ask ourselves, as citizens, how many of our school children does it take to be worth one cow from Daviess county?

And again, how much more are the cows of our country worth than our children, or our neighbor's children?

We protect our country from smallpox, scarlet fever, diphtheria, and yellow fever, by the laws of our government, but not one law has ever yet been passed to protect us from the venereal poisons which are far more dangerous than any of these other diseases.

We have another step farther on, preventable blindness, in an issue of the Monograph Series of the American Association for the Conservation of Vision. The chief article in this issue is a study by the Research Department of the Boston School for Society Workers on Ophthalmia Neonatorum. The enlightenment of the profession and of the public on this important question is a work to receive the aid of all, and we are glad to see this much of a step taken, but to my mind, it does

not strike at the root of prophylaxis, like quarantining the first of the infection.

In the past, individual physicians and local medical associations have brought a scattering fire on the inactivity and ignorance of the general public in matters which pertain to public health, but at present the public seems to prefer to jeopardize its most valuable asset, by not having laws passed to protect them from the worst infectious diseases we have to combat in this country. Communities are willing to pay the cost of epidemics, and will even pay for engineering services toward public utilities, such as water supply and sewerage disposal, but when it comes to passing laws to protect them from venereal poison, then we are up against a proposition.

Why is it then we can not get representatives to take up the "poor man's burden?" The whole nation is waiting to see what action our representatives will take to protect our most precious assets, "our future generation of children."

The Committee of One Hundred of the American Association for the Advancement of Science, has given sixteen reasons for a National Department of Health. But gentlemen, if you will notice, there is not one reason, given by that public-spirited body, to suppress the worst plague that the world has to contend with, all over this great and loved land of ours. There should be one reason why we should have the worst infectious disease of our land checked. And I think, gentlemen, that laws made to quarantine every case of gonorrhea and syphilis would be the act that our legislature could do for the prevention of the worst infectious disease we have in our land.

The public is ready to give great honor to one who has played the part of a hero in saving a life from a burning building, or a wrecked ship, and recompense is showered on him the world over, but when a doctor or a board of health acts as a hero to have laws passed to save thousands of people from the vilest poison on earth, that is carrying thousands of people to the grave each year, not one compensation is ever offered by the public, not one "amen" is said, not one "thank you" is said to those who have spent their lives in serving the public, and exposing their lives to all kinds of disease to serve the public.

People who have been sufferers of venereal diseases have always been despised, they have been neglected and hated, they have been blamed on account of their lives and health and their own conduct is said to have been the cause of their condition. But gentlemen, I know of some of our best people who have suffered from smallpox that it was not on account of their own fault, and I know in my own knowledge of some of our best peo-

ple who are sufferers from venereal disease, that are not responsible for their condition, but are afflicted on account of the sins of others, and should be protected by having laws passed to quarantine venereal diseases, to prevent them going over this country scattering their poison, and infecting innocent women and children; and innocent men too, would come in under this head or class.

Gentlemen, the infectious nature of these diseases you all know, and the contraction is easy from so many sources; such as basins, towels, tooth-brushes, kissing, and even the drinking cup, that you all understand so well. Doctors know these things and understand them, but the public mind is on stock and agriculture, and the fish, and forests, and the less infectious diseases. We have laws to abolish the public drinking cup, laws to protect live stock of our country, laws to protect fish, laws to protect game, laws to protect our forests, and laws to protect our government lands. But not one law to protect the future generations of children from the most deadly poison of diseases that the world knows anything about. Diseases that are inherited down from one generation to another.

It seems to me that our Government is interested in every public enterprise more than they are in the welfare of the health of the future children. A striking picture in the *A. M. A. Jour.*, of November 11, 1911, will explain this situation, on page 1632, and I will ask you all to turn and study it. Assuming that people will expose themselves to infection, various prophylactic measures have been used with more or less success, but we cannot have this world to run as we would like it to, and so long as there is contamination, we must meet the conditions as they are found.

Legislation, then, must be the prize, and I believe with Gladstone, that physicians will become the future rulers of nations, and that physicians are the natural attorneys of the poor, and that all social problems will have to be worked out by them. I want to get people to thinking about the specific diseases in their true light; that they are more like cancer than a bad cold and that it can be avoided and prevented, if we will take the proper prophylactic measures.

I wish to give some cases as reasons why gonorrhea and syphilis should be quarantined. These cases are here under our own observation, and each of us can ponder in our own mind the different cases we have in our individual knowledge at home and abroad.

First, a man who lives in the country, contracted gonorrhea in a neighboring town, got the infection into his eyes, while nursing his eighteen-months-old baby in his lap got the infection in the baby's eyes, the results, both

blind. Had not this man better have been quarantined the rest of his life, than to have wrecked the life of this girl baby, who is a living monument of his misconduct?

Again, a man who lives in a short distance of you all, contracted syphilis, and infected his wife, and she died leaving a family of small children, and not knowing her fate or whence it came, and now her little boys are scattered to the four winds, while the husband has been cured, and goes around and it could be well said that he murdered his wife. Would it not have been better to have quarantined him for life, or cured him?

Again, the *A. M. A. Journal*, on page 783, cites a case where a young man having a chancre on his lip, was present at a kissing party; six young ladies who were kissed by him contracted chancre, and two young men contracted chancre by kissing the young ladies that this first man had kissed. Had the original sinner been quarantined, all these cases would have been protected.

Again, a young man contracted syphilis and contaminated a young orphan girl in his town, and after her case became hopeless and on her death bed, helpless and destitute of the necessities of life, she asked him for assistance, he refused. She died a poor, innocent, helpless orphan, without the guiding hand of mother and father, the victim of a villainous brute who had infected her with the most wretched disease the world knows.

Gentlemen, I do think, if there are degrees of punishment in hell, this man will occupy one of the hottest corners of everlasting punishment.

Again, I will give you a case that will appeal to our representatives. In my first year in medical school, I met a doctor who said that he always kept a girl infected with gonorrhea to infect the representatives when the legislature met in session in his town. That he made more money while the legislature was in session than at any other time of the year. Now what do you think of a man, posing himself as a doctor, keeping infected girls to catch the men of our legislature?

Again, I will give you my last reason, as this paper is getting too long: A farmer in an adjoining county, had a fine mare that got ill and while the State Veterinary was in the county on stock service, he had him to see his fine nag. The diagnosis could not be made. So he took some of the pus from a sore on her body, and had it analyzed. The diagnosis was syphilis. On inquiry among the hands of the farm, he was informed that a negro, who was rotten with syphilis, the year before, was caught in the act of coitus with the mare, and the source of contagion was plain.

Gentlemen we should have laws passed to protect our homes, to protect our children, to

protect our neighbor's children, to protect our stock, to protect our country, to protect the future generations of children, and if I do nothing more while I live than to start people to thinking and talking, it will bring men into the fight who are more able to do more persuasive and effective work along this line of work, and laws will be passed to protect us from these dreaded diseases, and I shall not regret the time and labor I have spent in presenting this subject to you on this occasion.

PUERPERAL SEPSIS.*

By W. B. OLIPHANT, New Castle.

I assure you that it is a great pleasure for me to be with you once more as one of your members and consider it quite an honor to be called upon to write a paper so soon, when I see a majority of you follow me, yet not casting any reflections on the men who have preceded me, I see you have saved the best for the last, as I notice I am to discuss my own colleague's paper on the last day of grace. Now let's get to the subject, for to some of you it may seem a plaything, but to me it is a very important one. You may talk about your tuberculosis and your cancer, but to me the most dreaded disease, as well as the most heart-rending, is that of the mother after labor, so I have chosen for my subject Puerperal Sepsis, although, no doubt, it belongs to an older and more experienced physician than I. So, my good brothers, if I get the cart before the horse, just say what a fool he has made of himself and correct me in my humble attempts.

First let us begin with the history of this trepid disease, we are told that it dates back fifty years; but in reality it dates back about thirty years, however, only in the last few years have we been so widely informed as to its nature and causes. From its earliest beginning to the nineteenth century puerperal fever was aid to be cause by the suppression of the lochia.

In 1670 Puzos claimed that this fever was due to a metastasis of milk which flowed in the blood during pregnancy and normally attracted to the breast after delivery, but drawn to other organs or structures, especially the peritoneum with disastrous results, being proven by post-mortem examinations after childbirth.

Later on English and German observers claimed puerperal fever was caused by infection of the womb and peritoneum but could not account for it. Let me say that we owe much to Ignaz Semmelweis, who was at the time a young assistant in the maternity de-

*Read before the Henry County Medical Society.

partment of the hospital of Vienna. It was in the year 1846 that there was a great mortality in one of the wards, yet in the ward next to this one there was scarcely any, so he made an investigation and found out that in the first ward the parturient patients were attended by students who came in from post-mortem examinations with putrid products on their hands, causing this fever, while the other ward was attended by midwives, thus he saved the lives of many mothers. Twenty years later we received, with much gratitude, the work of Pasteur on bacteriology, the germ theory, and also the antiseptics to surgery by Lister, so from that day on we have become better acquainted with the etiology of sepsis, septic infection and the successful prevention and curative treatment.

ETIOLOGY.

The vagina becomes infected almost immediately after birth, yet in normal conditions it contains no pathogenic bacteria, however, streptococci, staphylococci and other pathogenic microorganisms are in the vagina before labor, if present they are diminished in virulence but under favorable conditions may grow and propagate. The vaginal canal has strong germicidal properties which serve to guard a woman against infection. They depend upon (1) cervical mucus and the bloody discharge during menstruation, (2) of the germicidal powers of the elements, (3) phagocytosis, (4) leukocytosis due to chemical action and special bacillus during and after labor.

Nature has furnished the following safeguards against infection, (1) the discharge of the liquor amnii, for what purpose? To wash the vagina out, (2) the passage of the child's body, and why? to sering the vagina after the fluid has been poured on, (3) and last, the descent of the placenta, membranes and bloody discharge.

Now let us take up the pathogenic microbes that produce local inflammation when introduced into the vagina: to make a long story short I will not introduce but one and the most important. We will call him Mr. Streptococci, which was observed in cases of puerperal infection by Mayerhofer in 1865, and cultivated from such cases by Pasteur in 1880, also Doderlin found the streptococcus pyogenes as the only infecting agent in five cases of seven puerperal infection.

How do these organisms get into the genital canal? (1) The physician, himself, when he makes a digital examination with soiled fingers, after having treated such infections as diphtheria, scarlet fever, erysipelas or suppurating wounds, he may have poison from any of them on his fingers, thereby causing sepsis to the woman.

Do not let me leave you to believe that we as physicians are entirely to blame for the infection may come from the hands of a nurse or attendant, then the hygienic surroundings may be bad, unclean instruments, the bed clothing, night dress, the mattress, vulva pad and materials used to clean the vulva, such as cotton or soft rags, the water used as a douche or that used to wash the patient.

We are also told that coitus in the last two or three weeks of pregnancy is a source of infection; leaving part of the placenta in the uterine cavity; tumors such as fibroid and dermatoid cysts and lastly the woman may have had interstitial metritis, so you see we have many ways in which sepsis can get the better of us but none we can not avoid.

We now come to the symptoms and of these we have the general and local (1) general, elevated temperature, perhaps preceded by a chill, but not necessarily; rapid pulse, physical depression, tongue coated, heavy, bad breath, intense thirst, nausea and vomiting, diarrhoea in the worst cases and a disinclination to take food.

(2) Local, foul discharge, redness of mucous membrane, ulceration and false membrane along the lower genital canal, edema of the vulva, pelvic peritonitis with an exudate. We may not have all of the symptoms in puerperal sepsis but we are sure to have some of them or, for example, we may only have the elevated temperature and the rapid pulse after labor, therefore, let us be on the lookout.

DIAGNOSIS.

It may be difficult to diagnose septic fever for some of the other of high temperature after labor, for example, malaria, yet if in doubt we may have a microscopic examination of the blood made to discover whether we have a protozoa of malarial or the leukocytosis of sepsis, with the symptoms mentioned above the diagnosis should be easy.

TREATMENT.

Whether in doubt or not, we should treat the case as if it was sepsis, evacuate the bowels so as to get rid of intestinal toxæmia and give quinine in cases of malaria, we have now treated the case not being certain of it, but not let's treat puerperal sepsis.

(1). A thorough disinfection of the genitals in this manner: sterilize your instruments thoroughly, such as tenaculum, speculum and curette, then, having done this place your patient in proper position, have her external genitals cleaned thoroughly and also clean out the vagina. You are now ready to proceed. Get hold of the anterior lip of the cervix with your tenaculum, then use a douche of sterile water, now we are ready for the curett, and use it on the uterine walls until

nothing but clean blood is brought away. If you find the wound is large and flabby so drainage is impossible, then it is best to pack the wound with sterile gauze.

GENERAL TREATMENT.

Give milk, if pulse is above 110, give digitalis, carbonate of ammonia, tr. veratrum viride, nitroglycerine, hypodermically best, and freedom from all disturbance both mental and physical and last, but not least, the very best of nursing.

Now, before closing, let me ask you older physicians to look back to the days when you first began the practice of medicine, and if you were so unfortunate as to have a case of puerperal sepsis what could have been more heart-rending than to see the young mother, with her first babe, lying and dying by degrees and you not able to save her life, but taking another feather out of your cap and being censured by those who are ignorant of the disease. It has been my misfortune to have had two of these cases and a sad misfortune it was, for in both I found out, no matter what I did, my patients died in eight days. So my friends it will be pleasing for me to know from you how to fight the battle of puerperal sepsis and with what remedies.

Before closing, let me quote from Dr. Wendell Holmes, who in 1843 laid one of the corner stones that has helped to build up our knowledge of puerperal sepsis, he says: "God forbid that any of the profession to which she trod her doubly precious life at that eventful period should hazard it negligently, unadvisedly or selfishly."

THE PUERPERAL STATE.*

By J. J. ROPMAN, Owensboro.

"The key to the management of women after labor, and to the proper understanding of many important diseases which may then occur, is to be found in a study of the phenomena following delivery, and of the changes going on in the mother's system during the puerperal period. No doubt labor is a physiological and healthy function, and during recovery from its effects disease should not occur. It must not be forgotten, however, that none of our patients are under physiologically healthy conditions. The surroundings of the lying-in woman, the effects of civilization, of errors of diet, of defective cleanliness, of exposure to contagion, and of a hundred other conditions, which it is impossible to appreciate, have most important influences on the results of childbirth. Hence it follows that labor, even under the most favorable conditions, is attended with considerable risk."

This is one of the most interesting periods of a woman's life. For six weeks a physiological process is so akin to a pathological as to require constant care and attention.

A uterus enormously enlarged and hypertrophied, must be reduced to its normal size. The vagina and vulva, flabby, rent and torn, must receive from above a foul discharge and carry it to the external world. To consider this together with the small per cent of cases of septicaemia that occur, one is forced to the conclusion that it is a physiological process and that Nature provides for all deficiencies and overdrafts.

Shortly after labor is ended a large proportion of women have a rigor, as a result of nervous shock, or as Lusk says, "it is to be accounted for by the disturbance of the equilibrium between the internal temperature and that of the external surface. It is of short duration and of no prognostic importance. Frequently the bladder is paralyzed from prolonged pressure, causing retention of urine. The bladder becomes distended and the urine dribbles away drop at a time, the viscus remaining full and causing severe after-pain. Or retention of urine may be caused by swelling of the walls of the urethra and soft parts, in which case no water escapes.

As a rule the bowels are constipated, but a certain per cent. have diarrhea, and in some cases the sphincter ani becomes paralyzed, incontinence of feces resulting.

The after-pains so much complained of by some patients are the normal contractions of the uterus to expell clots and bring about involution. They usually last from one to four days, and are in duration and intensity in increased proportion to the duration and activity of the preceding labor. On this account they are more pronounced in multipara, while they are often absent subsequent to a first delivery.

After delivery a discharge sets up from the interior of the uterus, known as the lochia and continues for about three weeks. At first it consists of blood, but after a few hours serum from the wounded parts are mixed with the blood. In four or five days it becomes of a greenish color, and emits a sickening odor, and is composed of blood cells, broken-down epithelium from the mucus membrane of the uterus and pus, and contains bacteria indicative of decomposition.

The temperature is usually elevated from 1 degree to 1 1/2 degree, and so continues for five or six days, with an intermission in the morning and an exacerbation in the afternoon. It is usually more pronounced in primipara than in multipara. Lusk attributes the elevation of temperature to the organic combustion attending the involution of the uterus, the reaction of small wounds in the course of

*Read before the Daviess County Medical Society.

the genital canal, and the disturbance attending the establishment of lactation. "A temperature of 100 1-2 degrees belongs within physiological limits."—Lusk

In contrast to the increase in temperature, the pulse often exhibits a remarkable diminution in frequency, in perfectly normal cases ranging from 60 to 70, but not infrequently dropping still lower, and may even sink to 40 beats per minute. It is usually most marked on the second or third day. It is known to be associated with diminished arterial tension, and has been attributed to a variety of causes, such as the removal of the utero-placental vessels from the circulation, entailing a less degree of labor on the heart. Repose in bed, and a disturbed action of the pneumogastric nerves.

The process of involution begins at the commencement of labor. During the rapidly following contractions of the uterus the cell elements are consumed, while at the same time the compression of the nutrient vessels cuts off fresh supplies from the oxidized protoplasm. The fatty degeneration of the muscular fibres continues after the expulsion of the ovum. Gradually the proteid substances are converted into fats, which undergo absorption. By the end of the sixth week the genital organs have returned to their normal state.

When labor is finished the woman should be allowed to rest quietly for a time, especially if she is seized with a nervous rigor, we should wait till it is over. Then the soiled clothing and bed clothing should be removed and replaced by clean. The genitals and soiled parts should be carefully washed with clean water, and dried. After all danger of hemorrhage is over, the room should be darkened and all company excluded and the patient allowed to sleep if possible. The crying of the baby, the affectionate salutations of friends, and other annoyances often become the starting points for a nervous restlessness that is difficult to overcome with the strongest soporifics. With multipara it is well to leave some anodyne to overcome the annoyance and suffering from after-pains

My instructions are for patients to get out of bed on the vessel in six or eight hours after labor is ended to try to empty the bladder. Often the bladder is partially paralyzed and there will be no inclination to urinate. To slip the bed pan under the hips may answer for emptying the bladder and may not for many women cannot pass the urine while lying supine. It will surely not allow clots and blood to pass from the vagina and uterus like the erect position will, and I think that of sufficient importance to outweigh any fancied harm that might come from being helped out of bed. If instructions as to emptying the bladder are not given it might result serious-

ly. I have called the next day and found my patient suffering greatly from after-pain and a high temperature. On inquiring found that the bladder had not been emptied in all that time. They simply had no desire to pass water and it had been neglected.

The diet should be light but nutritious. Milk, to which the nurse will perhaps seriously object, is the very best article. But if I had to sum up the whole treatment of this state in one word it would be cleanliness. Keep the woman, bed and everything around clean, no matter how often changes had to be made in order to do it. Move the bowels on the second day and use no vaginal injections.

SIMPLE REFRACTION FOR THE GENERAL PRACTITIONER.

By GAYLORD C. HALL, Louisville.

In every walk of life it seems essential that there should be certain days set apart or certain times which are properly known in the business world as taking stock.

The very universality of this custom shows its wisdom and usefulness.

Now that the legislative session has closed let us take stock regarding one of the measures which vitally concerns us as doctors and guardians of the public health. Having won the fight we should be in a very much better frame of mind to look at it from the standpoint of the philosopher, since we have the satisfaction of having been victorious at least up to the present time.

The profession owes a debt of gratitude to Dr. J. N. McCormack for his untiring activity and energy with which he pushed the fight for the public health and the profession against the united efforts of quack, charlatan, optometrists and members of the league of Medical Freedom.

At present we are concerned chiefly with the optometry bill, for we are certain that this will reappear two years from now with the same or greater vigor. It means something to the men who are after it, largely in a business way. This means money and that explains the assiduousness with which they pursue their quest.

Unless the Medical Profession of Kentucky show a corresponding interest in the matter it will of course finally go by default and the doctor will see the invasion of the field of medicine by a group of men untrained and inadequately qualified for the work, who will be placed by legislative enactment upon as high or higher plane than the doctor who is qualified.

The question thus arises, what can the med-

ical profession do in the meanwhile to render the cause of the optometrist without virtue and protect themselves from further attack?

First, what should be the attitude of the profession as a whole towards the optometrist?

It is an unfortunate fact, though nevertheless true, that at least some members of the profession demean themselves by referring to the optometrist and some have even gone so far as to openly endorse these men to the detriment of their own brethren and these endorsements have been used by the optometrists in their fight against the profession.

This occurred in our own State during the last session and was virtually the cause of the passage of the optometry bill in the State of New York.

The medical profession should be on its guard against the importunities or blandishments of these men and not be led to an endorsement of their designs, either through personal reasons or led astray by specious arguments.

In short, the members of the profession should neither refer cases to the optometrist nor assist or endorse in any way their proposed legislation.

The argument that appealed most strongly, it is said, to the members of the legislature in the recent campaign, was the point made by the optometrists that people in remote districts would not come to the city for refraction nor pay the fees of a specialist. Therefore, by refusing to pass their bill we either denied these people the help of glasses entirely or we left them a prey to the unregulated and unlicensed spectacle vendor. They did not explain why a spectacle vendor, licensed, is any more competent to administer to the eyes of patients than one who is unlicensed, yet the fact that certain people will not come to the cities nor consult a specialist regarding the eyes brings up the very pertinent question, if the average general practitioner by the expenditure of a very little time and study can not better qualify himself in every way to do simple refraction than men without any medical training.

This phase of the question has been discussed in the Section of Ophthalmology of the American Medical Association and the cause was warmly championed by the late Leartus Connor of Detroit.

A number of States have already made it obligatory for all applicants in medicine to pass an examination in refraction. This is a step in the right direction and should be extended to every State. There is no reason in the world why this branch of medical science should be delegated to non-medical men and cast off by the profession in general.

It is therefore incumbent upon the family physician to qualify himself in this respect so that he may be able to attend to that class of his patients who are beyond the jurisdiction of the specialist in eye diseases, either through diffidence, unwillingness to pay the fees of a specialist, or who live in remote districts.

It seems to the writer that it is a moral obligation of every physician to promote the interests of his clientele in every possible way. In this particular instance it seems an obligation for his own sake as well as for the good of his patients, since the traveling spectacle vendor not only knows nothing of refraction but usually is a rogue as well.

If this were the only side of the question it would appear to be enough to influence any right minded physician to interest himself in such a work. There is however a brighter side. This work is profitable. It stimulates the upbuilding of an office practice and it is work that calls for no long and arduous journeys but can be done at odd times when the physician is not otherwise occupied.

It is one of those influences for good which brings the patient under the control of the doctor to a greater degree and tends to prevent him wandering away in other side places, since if the doctor encourages his patient in consulting an unqualified person about the eyes, which is certainly a medical matter, that is but a step in the direction of self dragging with patent medicines and the dispensing with the doctor's services altogether.

It is not meant that every doctor in Kentucky should fit himself to do refraction. One man in each community, not too thickly populated, is sufficient and the doctors in that community should come to some sort of an agreement by means of which they would lend their influence towards turning the work into the proper channel instead of discommensurating any one of their number who undertook such work.

The expense of the outfit required to do simple refraction is not great. Forty-five dollars would supply any one with an acceptable outfit. If one contemplated more extensive work in that line, seventy-five dollars would be a wise expenditure. This would include a trial case with suitable frames, test cards for distance and near, a retinoscope, an ophthalmoscope, and a two-inch condensing lens. The office should admit of being darkened for doing retinoscopy and, if the physician were ambitious enough to learn it, for the use of the ophthalmoscope.

There are several methods of lighting in the absence of electricity and gas. An oil lamp with a black cover with a hole about the size of a dollar in its side would make a serviceable source of light.

In order to gain a general knowledge of the subject two books than can be recommended are, "Refraction of the Eye," by Gustavus Hartridge, and "Refraction and How To Refract," by James Thorington; both books published by P. Blakiston's Son and Company of Philadelphia.

In order to gain a practical working knowledge for the practice of retinoscopy or ophthalmoscopy there are several schematic eyes upon the market which are valuable for that purpose; one by Fisher and one by Thorington.

In order to employ the time given to the examination to the greatest advantage one should adopt a systematic method of examination. Such for instance as the direct inspection of the external eye and its appendages including the vergence of the lids, testing pupillary activity, roughly testing the degree of convergence by approaching the fingers as close as possible between the eyes before they diverge. This can be followed by the taking of the vision by test types. If vision is normal it does not exclude a refractive error. If vision is below normal it does not mean necessarily that a refractive error exists. The trouble may be due to congenital defects, defects in or behind the retina, or scars. It is therefore best to next employ oblique illumination with the fourteen diopter condensing lens making minute search over the cornea for faint macula, the result of former corneal ulcerations or injuries. These, if central, seriously impair vision.

Having determined these things we may next proceed to the examination of the refraction. If drops are employed, homatropia, two per cent., every ten minutes for an hour will generally suspend the accommodation. It may be necessary in children or in young hypermetropes to use atropin or scopolamin, the writer preferring scopolamin because it is quicker and as effective. It is employed in the strength of one-fourth of one per cent., one drop instilled and repeated in half an hour. If atropin is employed it should be in one per cent. solution three times a day for three days except in very young children when one-half per cent is sufficient.

One should consult the text books concerning the occasional systemic effect of the mydriatic and be familiar with the occurrence so that they will not be taken by surprise but can assure the patients of its harmlessness.

Following the suspension of the accommodation it is always best to employ the retinoscope and obtain the exact refraction. In all complicated cases it saves a great deal of time and gives you confidence in the results which no other method can give. Following the retinoscopic examination, examination with

the ophthalmoscope should be done. The patient is then ready for final testing at the test types.

Such detailed examination may seem unnecessarily long yet when one becomes accustomed to its employment he is surprised at the facility with which it can be accomplished and the short time it takes. It is recommended simply as a good practical work schedule.

It is not the intention of the writer nor does he wish to be construed as believing that a man doing general practice can easily qualify himself to pass judgment on grave eye conditions nor even successfully refract the more complicated cases, or rather the cases complicated with many nervous symptoms.

He does think, however, that it is within the ability of every general practitioner to know the fundamental principles of optics and the uses of lenses as well as their limitations; that they could by moderate practice and study develop into a very fair refractionist, able to undertake any simple case and better than that to understand thoroughly when they were dealing with one more complicated.

This paper is submitted to the profession of Kentucky, more particularly to the men doing practice in the rural districts and the writer asks for its earnest and careful consideration. He firmly believes he is not overstating the case and that it is highly possible that the general practitioner could so qualify himself to the lasting benefit of his community and himself; from the standpoint of health as well as in a material way.

The taking up of such work by the requisite number of general practitioners in the State would be the practical solution of the optometry problem and would put the profession upon a higher scale.

PROPRIETARIES VS. OFFICIAL DRUGS OR, U. S. P. & N. F. PREPARATIONS VS. NOSTRUMS AND PROPRIETARIES.*

By S. H. WINSTEAD, Druggist, Paducah.

Being truly in accord with my profession; pharmacy, and in sympathy with your profession, I assure you that it was with rare pride that I accepted the command of your Honorable Secretary, Dr. H. G. Reynolds, to read a paper before you upon this occasion. But when the subject of "Proprietaries vs. Official Drugs" was allotted me, I was literally swamped, because of the enormity of this most important subject, for it has so many avenues of approach that I hardly know

*Read before the Southwestern Kentucky Medical Association, May 22, at Paducah.

where to begin. However, I beg your indulgence for a short while this morning, during which I will attempt, in my feeble way, to present to you a few of the important phases which have impressed my mind.

If any two professions on earth should work in unison, they are the doctors and druggists. I'm sure that we are all of one mind on the question of harmonious activity between the pharmacist and the physician. To labor harmoniously means greater achievement for both professions and the more we strive to perfect that relation of harmony and united endeavor, the greater will be our success. We are working for one common good; our ultimate goal always has been and always will be, the alleviation and cure of diseases of our fellow man, and the tie that should bind us in this glorious work, can be made no stronger than through the means of the U. S. P. & N. F. propaganda, for gentlemen, the day of worthless and useless nostrums and proprietaries is nearing its end. They have been weighed in the balance and found wanting. Therefore, let me urge that we turn our attention to the sunrise of to-morrow, when we can hope for far better things, both in medicine as well as in pharmacy.

You doubtless are well aware that there is much self-medication practiced among the laity to-day and I am frank to say that the doctors and druggists are both to share, and share alike, in this lamentable condition of affairs. To further neglect remedial measures would serve to retard greatly much that we would build up, therefore, it behooves both professions to take stock, as it were, see where-in we are deficient, then make an honest and determined effort to right the wrong, for we owe it to ourselves and to our patients.

Just for example: a physician writes a prescription for a bottle of some proprietary remedy, with usual directions. It is a short name. The patient remembers it, since in this day, a great percentage of the laity are proud to familiarize themselves with the terms applied to diseases and medicines. The patient chucks the prescription into the discard and sallies forth to the druggist, asks for a bottle of the proprietary and then takes it according to the directions. It is only natural to assume that that patient, especially the discerning one, will eventually tell his friends and neighbors of his experience and recommend the purchase of a bottle of the same medicine, explaining that Doctor So and So prescribed it for such and such a malady, and before you know it doctor, you have inaugurated the sale of what was once a proprietary, and finding yourself responsible for the general sale of a regular patent medicine, when, if you had written an ethical prescription, it would have been filled and taken, and thereaf-

ter regarded by the patient with the respect that is its due. An extreme case was related to me by a responsible person who once saw a prescription for tinct. nux vomica, 2 drams: Pinkham's vegetable compound, 8 ounces: with directions 2 teaspoonsful 3 times a day. Now in what light do you suppose the druggist regarded the physician responsible for such a prescription, and worse still, what regard could the discerning patient have for the doctor? Such a practice is deplorable. If it were possible for you doctors to spend a while in the prescription department of the drug stores of to-day, you would soon become disgusted at the vast amount of prescriptions for patent medicines, but I am glad to say that conditions are rapidly improving, and let's hope that some day, all prescriptions will be of the U. S. P. & N. F. composition. I could stand here for hours and name hundreds of patent medicines which have been introduced to the public as proprietaries owing to the indiscretions of the doctors. Such a practice gives some druggists enough leeway to recommend these remedies to his customers, but this is a very poor excuse and should not be tolerated.

A casual study of the U. S. P. & N. F. would soon convince you that they contain formulas for preparations which must be made of a uniform strength from tested drugs of known medical value, for these formulas are written by the Pharmacopoeial Committee and the National Formulary Committee, and over 60 per cent. of these committees is composed of practicing physicians, the other 40 per cent. of druggists of national reputation. The committees, after careful and honest work, have endeavored to give to the physician, preparations which will be worthy of his consideration, and which can be compounded correctly by any intelligent druggist. While along this line, let me add that the cost of your patient's prescriptions would be decreased not less than 33 1-3 per cent. for, gentlemen, the proprietary fellow is not in the business for glory. It is the almighty dollar he is after, and he always taxes us to the limit for his goods, thereby imposing upon the patient, a cost nearly double the price he would pay, if these prescriptions were of the U. S. P. & N. F. variety.

There is no wonder that the unthinking doctor rates the druggist as a merchant of the average in intellect, when your medical colleges give their students lectures in pharmacy for only eight weeks, two lessons each week, and after giving them these sixteen lectures, they dismiss the subject, saying that that is all there is to pharmacy. There is no finality in pharmacy, but no wonder, with this feeble information, the young doctor launches his career in practice with such a

menger knowledge as to pharmaceutical preparations. I say that it is no wonder that he falls victim to the designing proprietary manufacturer.

The National Association of Retail Druggists are doing a great good among the doctors at regular intervals. The official preparations are those the formulas of which are given in the U. S. P. and the N. F. the standard of the United States in the way of books of reference. If you will stop to think, you will realize their importance, for these formulas are the finished product of the minds of the foremost authorities in the world. They have been endorsed by the Revision Committee, about 60 per cent. of which are physicians, as I stated before.

Allow me to recite to you ten cardinal strong points of these official preparations, as formulated by a prominent Chicago druggist:

1. They are created primarily for therapeutic value and not for profit.
2. They are not exorbitant in price.
3. They are of certain and reliable compositions, the formulas being given in every detail, even to the method of manufacture.
4. Being standard, their compositions definitely known, they cannot be altered to suit the manufacturers whim or pocket book, the manufacturer not controlling them.
5. Knowing the exact ingredients, the physician does not prescribe contraindicated drugs.
6. Not being accompanied by circulars and not having short names, they are not easily read and remembered, and therefore do not lead to self-medication.
7. They are not advertised to the public, over the physician's head.
8. Knowing their exact compositions, the physician avoids incompatibilities both physical and chemical, also the prescribing of two or more preparations containing the same active ingredients, thereby avoiding dangerous mixtures.
9. The formula being open, the physician knows what he is prescribing and therefore, knows what therapeutic results to expect.
10. They can be prepared by all capable pharmacists.

Now as to proprietaries. You are never furnished with a complete formula. If you were, there is no moral or legal assurance that this formula is always adhered to. It is subject to change without notice. There is no standard set down by authorities. You think you get results, but to save you, you cannot tell what produces them. Gentlemen, you cannot administer intelligently to your patients when you resort to treatment with patent proprietary medicines. I thank you for your attention and I really long for the day to

come when such ideal conditions as both professions could picture, can be realized.

Now in conclusion, I want to say in the beautiful language of my friend H. C. Shuptrine of Georgia, and his words will bear repetition many times over, that

"None appreciate more your hard and thankless work, your anxiety, than do we druggists. We realize your hardships as well as your comforts; your sorrows as well as your joys; your hours of rewarded ambition and your hours of hopeless despair. We realize that in your disposition, you must be as flexible as a silken cord, as irresistible as a cube of tempered steel, yet as tender and subtle as a flower that in its perfume gives to the morning air its first breath of spring. To the mother, father and child, your presence is as a shrine, for in you is placed all their earthly faith. When you raise to health or lean over the death-bed of a dying babe, you sound those tender chords of motherhood, the resonance of which is heard back in even sweeter cadences, the music of the 'Far-Beyond.'"

Gentlemen, I thank you.

DIET.*

By C. H. Tonn, Owensboro.

In preparing this paper on "Diet," I have not been unmindful of the advice given by a distinguished medical writer: "have something to say, say it, and stop."

It is a remarkable fact, that the bedside practitioners of to-day, still follow in the footsteps of their predecessors, in the concentration of their minds upon the treatment of disease by drugs, almost exclusively, with little or no thought of the diet, when in fact diet is often as important, or more so, than drugs in the treatment of disease, especially fevers.

It has been truly said that the principles of nutrition are better known than the way to apply them. Our use of foods has been much less accurate than our use of drugs, and dietary mistakes have been common, through ignorance of food values, or difficulty in estimating them.

In fevers and other conditions where a liquid diet is largely used, a knowledge of food value is very important, for there is great difference in the food value of different liquids.

In making a comparative table of estimates, and in using the term "calories," I wish to consider this term as units, or molecules of heat. First, one glass of unskimmed milk equals 160 calories; 2nd, one glass three-fourths unskimmed milk and one-fourth cream equals 240 calories; 3rd, an egg-nogg,

*Read before the Daviess County Medical Society.

composed of one glass of unskimmed milk, one egg, and two teaspoonfuls of sugar equals approximately 300 calories; 4th, a plate of cream soup equals 160 calories.

We will consider the food value of those liquids so commonly used by physicians, especially in fevers: 1. A glass of skimmed milk or buttermilk equals 80 calories. 2. An equal amount of gruel equals 75 calories. 3. A glass of albumin water (white of one egg) equals 20 calories. 4. A cup of beef tea or clear soup equals 5 to 20 calories.

Let us take a 150 pound patient in bed, who needs approximately 1800 calories a day, and who receives ten feedings of a glass (8 ounces) of liquids a day. Some combinations of liquids, allowing for agreeable variety, will abundantly nourish him, while other combinations mean partial starvation. 1. Two glasses each of unskimmed milk 320 calories, gruel 150 calories, thickened soup 320 calories, egg-nogg 600 calories, milk and cream mixture 480 calories, total 1870 calories.

Such a liquid diet in fevers, will materially retain the weight and strength of the patient, but unfortunately to-day, physicians are apprehensive, less their patients receive too much liquid food value, and so we submit the table generally used by most physicians, especially in typhoid fever: 1. Two glasses each of unskimmed milk equals 320 calories, buttermilk equals 160 calories, gruel equals 150 calories, albumin water equals 40 calories, and beef tea or clear soup equals 20 calories, making a total of 690 calories, being one-third of the quantity of liquid food value needed to support the patient, and when such diet is given to fever patients or invalids, the loss of weight is attributed to "wasting disease."

I hope you will pardon me for being personal, when I assert that every physician in this audience can recall instances, in their practice, wherein they relied, exclusively, upon skimmed milk, buttermilk, gruel, albumin, water, beef tea or clear soup, a diet containing less than one-third of liquid food value sufficient to sustain their patients, and at the time little did they imagine that, with the use of such diet, they were simply hastening the departure of their patient "over the river."

I am frank to confess that I can recall many, many, many dozens of similar instances in my own practice.

It has been creditably shown how it is possible, to give typhoid fever patients 1000 to 5000 calories a day, on a diet of milk, cream, ice cream, sugar and eggs, without disturbing digestion, and to carry them through their fevers, with little loss of weight.

Some years ago a case of typhoid fever was reported by a member of the Owensboro Medical Society, which was freely discussed

by all the members present. The patient was a man sixty years old, in the seventh week, temperature below normal, rapid, weak pulse, 30 to 40 stools every twenty-four hours, greatly emaciated, abdomen retracted, resembling an old-fashioned buck-eye bread-tray, and patient forced to lie on his back, as turning on either side produced extreme pain in the abdomen and more frequent stools; condition extremely grave, all else having failed to check the bowels, was given 1-4 grain of morphia and 1-150 grain of atropia, hypodermically, every 3 or 4 hours; patient cyanotic. The diet was skimmed milk, buttermilk, gruel, albumin water, beef tea or clear soup and stimulants.

The following treatment was advised and accepted by the attending physician: Stop all slops and hypodermics, and in lieu was given breakfast middling, corn cakes, ice cream, coffee and stimulants, and twenty dops of landanum in one tablespoon of starch water, gently injected into the rectum every three or four hours, using a two ounce piston syringe to relieve the tenesmus; foot of bed raised 8 or 10 inches; a woman's flannel skirt, folded into a pad 6 or 8 inches thick, and forcibly retained over the abdomen by a wide bandage.

The attending physician reported that during the first twenty-four hours there were only three or four stools, and the patient could rest comfortably on either side, and was soon convalescent.

This was a case of relapsing typhoid fever, so called, but in reality a fever of inanition, which was due to the want of sufficient nourishing liquid food to support the patient, from the inception of the fever.

It has been my experience that typhoid fever, continuing after twenty-five or thirty days, becomes, not a relapsing fever, but a fever of inanition, and for some years I have given freely of nourishing liquid food in order to prevent this fever of inanition, thereby preventing the great loss of weight and nerve exhaustion.

Instances of the fever of inanition from thirst are almost daily recorded—shipwrecks and entombed coal miners—the temperature rising after the first day, and at the end of the third and fourth day the man often becomes a raving maniac with a temperature of 104 to 106 degrees Fahrenheit, the fever of inanition due to the want of water.

As late as fifteen years ago, the abdominal surgeon, after a laparotomy, deprived his patient of water for three days, and the first complaint of the patient was intense thirst, due often to the loss of blood, or shock, and especially by the action of the anesthetic on the air passages, causing dryness and burning of the throat. The suffering of many of

these patients was terrible, and being deprived of water produced a fever of inanition, which often was construed as surgical fever.

Fecal impaction due to neurosis of the intestines, a condition often the bane of the abdominal surgeon, is promptly and successfully relieved by the free ingestion of coarse solid food, boiled cabbage and fat middling, jowls and greens, corn bread, etc.

The fever that occurs, whether a high or low temperature, is a fever of inanition.

The only drug required in these cases is the syrup of the hypophosphate of lime and soda, to replace the basic salts, as the patient's system is below par.

This paper will not admit of my considering the diet of diabetes, in which the ingestion of foods, containing carbohydrates, must be used sparingly, nor the diet of nephritis, in which the ingestion of foods containing proteids must be used in moderation.

BIOLOGICAL THERAPEUTICS IN PYORRHEA ALVEOLARIS.—AUTOGEN-IC METHOD.*

By J. H. Wood, D. D. S., Lexington.

The subject upon which we are about to touch is one that has always been in the past looked upon as a ghost in the list of diseases that come under the observation of the dental profession.

Many, probably all of us have attempted to discover its mysterious origin or to determine its diathesis. In this many of us may think we have been successful, and have at once had dreams of the time when our reputation as "the dentist" who can cure pyorrhea alveolaris has become so great that we can begin to specialize in this work and save not only the teeth, but in so doing protect the health of all who come to us before it is too late.

As a rule, however, we awaken from our dreams before they become nightmares because some other investigator comes along with a theory widely different from our's and shows us that we are wrong, or because we find that the case we thought we had cured of pyorrhea was not pyorrhea at all, but something that would have gotten along all right anyhow if the proper prophylactic measures had been taken, and our treatment left off entirely.

Every time we cleanse a filthy set of teeth and find a little pus at the margin of the gums we are too prone to decide at once that we have found a true case of pyorrhea. This frequently is the condition found, but it is frequently not the condition that we are led to believe that it is. These cases of mistaken diagnosis are the ones that tend us to believe

that we have found a sure case for this wide spread and unconquered disease, when in reality a little clear water combined with a good brush and a vigorous brush massage twice or three times a day would probably bring about better results than our medical treatment.

At present the medical profession is very enthusiastic about bacterial vaccine treatment for the cure of all localized infections of a low grade, such as ordinary skin eruptions, boils, ulcers, acne, gonorrhea and such. This enthusiasm seems very justifiable according to the results obtained. Old infections that have baffled all previous treatments applied have yielded very readily to the action of the bacterine solutions. If these infections yield to the bacterine treatment, there is no legitimate reason that pyorrhea alveolaris should not be a typical infection in which this treatment is indicated.

Biological investigation has shown beyond a doubt that this is a bacterial disease and judging from the fact that the pus is always discharged round the gingivae, even when the pockets are deep seated instead of boring through the alveolus and gum as in the case of dental abscess, leads us to infer that the bacterin are of the pus-forming variety known as the staphylococci, and it is the general idea where investigation along this line has been made that this disease germ is either the staphylococcus albus, aureus or citreus, or at times a mixed infection containing any two, or probably three of these.

After having made a very careful study of this disease in a bacteriological laboratory equipped for the purpose, and with the use of the laboratories of the State Universities offered to me to use at any time, I have come to the conclusion that the pus from the pockets around the teeth affected with pyorrhea alveolaris may contain not only one or all three of the staphylococcus albus, aureus and citreus, but contains practically at all times the streptococcus pyogenes, this latter being the bacterium of dental abscess.

Pyorrhea never forms a fistulous opening on the gum for the reason that the deep pus pockets are formed after the ravages of the disease have already made an opening from the gingival border to the seat of the deep pockets, allowing the pockets to drain through that channel thus averting the boring action of the streptococci.

The bacteria mentioned attack the alveolar periosteum, after the destruction of which the alveolar process is left in such a condition that it remains a constant source of irritation to the surrounding tissues until it is absorbed or removed mechanically.

A sharp edge or point of one can frequently be felt with the probe as we are exploring

*Read before the Kentucky Dental Association.

the deep pockets of a badly affected alveolus. Such points cause the soft tissues circumjacent to become congested and sore. The gums bleed easily and the patient thinks that it is the wrong thing to brush them when brushing makes them bleed, hence we find in most cases that have reached this stage a filthy condition to make matters worse.

Frequently other bacteria are found besides the ones mentioned, in a culture from a pyorrhea infection, but are generally recognized as some germ, or the same ones occur so seldom as to preclude the possibility of its having anything to do with the infection.

Thus far we have touched only upon the disease and its conditions as we find them after the infection has become well developed. The treatment usually relied upon in the past has been practically uncertain, or we might say practically certain not to cure pyorrhea. There is no doubt that the ravages of the disease have frequently been checked, usually for a short time, then we see the same old trouble only just a little bit worse than it was before. The reason is simple. The system is not fighting the disease and we have only been making the vigorous little bacteria sick with our treatment instead of destroying them.

The white blood corpuscles or phagocytes are the soldiers that guard the body against infection, and whenever any infection becomes malignant it is because the phagocytes for some reason are not doing their duty, or have by some means become overpowered.

If we now examine the white blood corpuscles under a powerful microscope, we will find them to be inert as far as the bacteria in question are concerned. You will not find them laden with the germs they should be fighting to destroy.

Science has determined that the power of the phagocytes is due to the presence of opsonins in the blood. The duty of opsonins seems to be to capture and deliver to the phagocytes for destruction the invading bacteria before they have a chance to cause infection, and by this means prevent them from causing any local or systemic trouble. If we have a patient with pyorrhea alveolaris and examine the phagocytes under the microscope, we will find none of the bacteria causing the infection engulfed therein, showing that something is lacking to cause the guardians to do their duty.

It has been found that the introduction into the system of bacterial vaccine favors phagocytosis by increasing the opsonins in the blood, thereby raising the opsonic index, thus increasing or raising the low resistance of the system to that particular germ, to a high resistance. This will be shown to be the case if you will after introducing the vaccine and waiting a sufficient length of time, again ex-

amine the phagocytes under the microscope. You will now find them laden with the very germs that you want then to destroy, which shows that the system is beginning to rid itself of the bacteria that are causing the infection that we have under consideration.

In the treatment of pyorrhea alveolaris by the vaccine method I believe it to be imperative to use the autogenous bacterine, as the infections are so mixed as a usual thing, and there are so many strains of the staphylococcus and the streptococcus, that the use of the stock vaccines would seem to indicate failure. We must bear in mind that germ life is something that is greatly influenced by environment, and a bacterine made from the infection to be treated will be more likely to be able to combat the individual characteristics of the germs which cause that infection.

Unless prepared to make autogenous bacterine ourselves, it is strongly advisable for us to get some competent bacteriologist to make it for us. It is work that entails great care and a thorough knowledge of the technique, for there are quite a number of side issues besides the simple incubation and emulsification that demand our most careful attention. If we are considering the staphylococcus, as we surely must in the case of pyorrhea, we must not forget the discovery of Van der Veldt, who found that staphylotoxins cause hemolysis. Nearly all of the pathogenic species of staphylococci yield these toxins. It is not formed by the non-pathogenic species. These toxins are destroyed by exposure to a temperature of fifty-six degrees centigrade for twenty minutes. The hemolytic toxins formed by certain streptococci have been known to take a temperature of seventy degrees centigrade, continued for two hours. Hence we see that while extreme care is necessary, we can by careful technique eliminate all danger.

The technique of administration is very simple. Every aseptic precaution must be observed of course. To cleanse and sterilize the syringe is the first step. I use an all glass or all metal syringe that has no soft packing of any sort. These may be boiled without any danger of injury to them whatever. The skin at the point of injection should be cleansed with some antiseptic solution immediately before injection, and immediately afterward. Alcohol is very good, or the place may be painted lightly with iodine. Always choose some place for the injection as far as possible from any glandular locality. I inject between the shoulder blades, first on one side, and at the next operation on the other side.

The standardized solution contains about 500,000,000 bacteria to the cubic centimeter. The initial dose should not exceed 100,000,000 bacteria, or one-fifth of a cubic centimeter of

standard solution, in a normal saline solution sufficient to make one cubic centimeter. I have found the normal salt to act as well in every way as the physiological solution, and it is certainly much easier to make.

The local and physiological reaction of the patient should be closely observed, especially after the initial dose, and the temperature and other manifestations indicating a negative phase should be carefully noted and used as an index for the size of the next dose.

After the initial injection the temperature generally increases slightly, followed by a slight headache and backache some time during the first twelve hours after the administration. This is usually followed by a feeling of buoyancy. The local reaction manifests itself by an indurated area about the size of a dollar or smaller, according to the size of the dose administered.

Never increase the dose as long as any reaction occurs. Rather decrease it and then gradually increase as the patient can stand it without showing any reaction at all. We should never be in a hurry. The best results are obtained by taking all the time needed and very gradually increasing the dose until no reaction can be obtained no matter what amount of bacterine we inject. The pus will disappear and unless the bony support of the teeth affected has been entirely destroyed, we will be rewarded by seeing them gradually tighten nicely, and resume their normal functions. Any tooth that may be loose on account of lack of alveolar attachment should be splinted and given a chance in that way. One-third of the alveolar attachment left in good condition is very frequently sufficient to hold the tooth firmly enough for it to perform its normal functions.

Of course the teeth must be thoroughly sealed at the beginning of the treatment, and every particle of calculus must be removed, no matter how far up on the root it may extend. The use of ammonium bithioidate or aromatic spirits of sulphuric acid, properly applied, is recommended to sterilize the pus pockets and to remove any small scales that may have been missed by the sealing instruments. All sharp points of unabsorbed process must be removed or smoothed so as to be non-irritating. Bacterial vaccine will bring about the destruction of the bacteria involved, but as long as a constant source of irritation remains present, the teeth will never tighten, and the gums will remain soft, congested and spongy.

Local treatment and prophylaxis are necessary if we expect to obtain the desired results from biological therapeutics.

As pyorrhea usually accompanies arthritis, or other diseases having a gouty diathesis, it would seem to indicate that the patient should be put on a non-nitrogenous diet.

My clinical experience with this method of treatment has been limited, but with the cases that have presented and have been finished, the results have been most satisfactory, both to the patient and myself, and it is only reasonable to believe that the opsonic index once raised, and the phagocytes stirred to action, that they will keep up the work of systemic sterilization in regard to the infection that we have been treating, until the last bacterium has been disposed of. That this treatment will render the patient immune to future infection, I firmly believe, and can refer to such authority as Dr. Ehrlich.

The repeated injection of bacterial vaccine into the system will produce a blood serum containing immune substance called bacteriolysin, produced by the endo-toxins carried by the bacterine, which is specific in the destruction of bacteria of the same species.

INFANTILE DIARRHEA.*

By R. N. FILATREAN, Knottsville.

Diarrhea is frequent during the whole period of infancy up to the third year of life.

Many writers describe many varieties according to variations in symptoms. I think the whole thing may be classified under three heads so as to embrace practically the whole string of symptoms. Letting all those finer distinctions of the ultra scientific be embraced under the head of

1st, Simple Diarrhea—Intestinal catarrh or entero colitis and cholera infantum.

Simple diarrhea often comes on suddenly, but sometimes is preceded for a day or two by restlessness, disturbed sleep, nausea and vomiting. Causes are various. Conditions or agencies which have no appreciable effect in the adult often increase the number of evacuations in the infant.

Food which imperfectly digests, some of which ferments, stimulates the intestinal follicles to excessive secretion and increases the peristaltic movements by its irritating action, thus causing diarrhea.

Too frequent and abundant feeding is another cause, especially in young infants; some of whom may vomit the surplus food and remain well, but others do not. Food which cannot be assimilated, becomes an irritant in consequence of fermentation or by its mere presence there in the intestinal canal a foreign unassimilated body, becomes an irritant and sets up diarrhoea. The mother's milk may disagree either from some temporary derangement of her system or continual ill health. Diarrhea in the nursing infant is the result.

Fright or strong mental impressions will

*Read before the Davless County Medical Society.

also in some children increase the number of evacuations. Exposure to cold may also be a cause, children who are insufficiently clothed in the winter season or who are taken from a warm room into a cool one without sufficient protection; or who lie uncovered at night, are subject to diarrheal attacks from the impression of cold on the system. The cause of the diarrhea may exist in the child itself. In some children the evolution of the teeth is attended by a relaxed condition of the bowels, which ceases when the gum is pierced; whether it is the cause of the diarrhea or not.

Intestinal worms also may operate as a cause. Diarrhea is occasionally salutary within certain limits, especially if occurring from the presence of excessive or irritating food it is obviously conservative.

The stools in simple diarrhea differ much in color and consistency in different cases and perhaps at different times in the same case. They contain particles of casein or any other residue of undigested food.

Stools are usually passed easily but if they be acid or in any way irritating there will be more or less tenesmus, especially in young infants.

During the quiet hours of sleep, when no food or drinks are taken the diarrhea diminishes. There is much or little thirst in accordance with the severity of the attack, if the actions are frequent, thin and watery and rather long continued, then thirst is greater.

The features in this disease are pallid. In a few days, if the evacuations continue, there is evident loss of flesh and weight, the tissues become soft and flabby, and the roundness of limbs is gradually lost; but in most cases when the malady has reached this stage its original character is lost and it has become inflammatory. Certain symptoms may occur here as well as in the inflammatory stage such as sympathetic cough, or what is more serious, cerebral complications, convulsions or stupor indicating the supervention of spurious hydrocephalus and this may occur in either form of diarrhea.

In a large proportion of cases simple diarrhea, when properly treated, is not dangerous; and just at this point I deem it appropriate to digress just a little from the beaten path to assert that though the handling of these simple cases seems so rudimentary, as scarcely to warrant space in a paper or time in discussion, so simple that the laity seems to feel able to cope with this trouble without the cooperation of the physician; and yet in my opinion the most of the serious bowel troubles and complications, especially as we see them occurring in the country, take their rise from poorly managed and improperly treated simple forms of diarrhea.

Realizing that often, despite appropriate

treatment, and our best directed efforts some of these simple cases go on into the more serious forms and from that on into a long, tiresome, wasting illness and dangerous in the extreme because so many of them, even after the most anxious and arduous attention and unswerving devotion of attendants, the little ones are torn at last from the loving embrace of devoted parenthood and by the grim angel consigned to a celestial home.

Then I doubt if simple diarrhea is so simple after all; I doubt the appropriateness of encouragement of the laity to continue trying to handle these cases. I hope the days of the old woman's black oak bark ooze or black berry bush root juice, or the landanna route, or the various patent and proprietary nostrums foisted on an unsuspecting and ignorant public by the mercenary quacks, too numerous in the land, who proclaim their remedies the great infallible cure-alls. I hope these days will soon come to an end. For when these simple cases have been ignorantly tampered with, and the simple condition has thus been allowed to go on and assume more serious forms, then indeed have the parents, the physicians, and all concerned, something to contend with.

Too often does the physician carry the blame in the minds and mouths of the parents and friends, because of the untimely shuffling off of one of the innocents. At the same time this sad event is directly due, too often, to faults of omission and of commission of the very same parents who blame the doctor. And how is this? Why a simple diarrhea is at the suggestion of some kind-hearted old grandmother, or ignorant, but wise and kind-hearted acquaintance, shut down by one or the other of a thousand home-made or ready-made concoctions; the irritative material or whatever is causing the diarrhea, is locked in the intestines, further putrefactive and fermentative process take place, a fresh diarrhea takes place, nature is fighting the disease and trying to annul the wrong treatment; but the diligent friends and anxious mother get busy again with the same old plan or else try another which has a similar action only to shut up nature's safety valves, and lock in again the various poisons and irritants, directly after two or three or four of these attempts a real infection occurs; inflammatory processes have started up, there is fever, vomiting, great exhaustion on the part of the child; great anxiety on the part of the family and friends; a physician is called in, most likely in the night, and if he fails to get the damage already done, repaired in a very short time he is either discarded as no good, or else his instructions are but poorly and half-heartedly carried out; his directions as to diet are most woefully disregarded, the treatment he rec-

commendations may be given, and it is highly probable that even while employing the doctor they are at the same time surreptitiously giving something of their own, or their friends' concoction.

In such cases it is not difficult to guess at the result. The physician has lost out, the parents are bereaved and the baby has gone to join the angels.

Now do not understand me as meaning to imply that this practice of disregard to diet orders and extra home medication is a universal custom, by no means is that meant, but I charge that the practice is sufficiently common to demand very emphatic mention.

Dr. C. I. Kerley, of New York, says: "At the commencement of my junior service on the house staff at the County Branch of the New York Infant Asylum, while making the rounds one day the matter of summer mortality among the infants was being discussed with the resident physician, the late Dr. C. E. Kimball, and on inquiring why so many died situated so favorably as that institution was, and being supplied with good food, pure water and good nurses and competent medical attention, etc. His reply was: 'Take your pencil and write, as we go through the wards, the names of the children I shall indicate.' At the completion of the round, he directed me to keep the list of thirty names, saying that these children probably would not survive the summer. I remarked that these were healthy looking babies; he says they look well, but they have foolish, ignorant mothers; the children have had frequent attacks of indigestion and diarrhea during the winter and spring, the mothers steal food from their own table and give it to the children when the nurses are out of the wards; these children have but little intestinal resistance, and will give us our first fatal cases when hot weather comes.' I kept my list and found that the accuracy of his prediction was startling. But four of the children named, survived the summer."

Now in the second form, entero colitis, we have a continuance and an aggravation of the conditions found in the simple form, and in addition to this there is the added factor of bacterial invasion and infection of the gastrointestinal contents with its attendant inflammatory manifestations accompanied by fever, great restlessness, and persistent wasting of the body tissues, the capacity for food assimilation is very much reduced and may be, for a time, entirely suspended; thirst is great, and there is apt to be vomiting; as a rule there is distended and tender abdomen, considerable griping and pains in the bowels and more or less marked tenesmus.

Prognosis in such cases should be guarded, so much depending on the child's power of recuperation, his resisting power to bacterial

invasion, and his ultimate ability to digest and to assimilate sufficient food to sustain life.

In the third form, cholera infantum or acute gastro-enteric infection, is a form of infection which, while acute in character, is rarely of primary origin, for it is generally preceded by a disordered gastro-enteric digestion. The onset of the urgent symptoms, however, is usually most pronounced, the child being taken suddenly with persistent vomiting and the passing of large watery stools, of a greenish color. The prostration is extreme, the breathing becomes shallow, the eyes sunken, the skin pale in color, the pulse soft and very rapid. The temperature may be very high or it may be sub-normal, the low temperature cases it seems being the most hopeless; the system is so overwhelmed by the infection that the patient is often unable to react, and frequently they die within a few hours after the onset of the attack.

TREATMENT.

In the simple cases stop the milk temporarily and eliminate the irritating gastrointestinal contents, this may be done with castor oil or with medium doses of calomel; to be followed or not, as indications may demand, by some sedative antiseptic; such as bismuth, etc. Stomach washing and enemas may be required in cases that are slow in getting adjusted.

In ileo-colitis you likewise stop the milk, and stop all food for a day or more, then begin by feeding barley or rice water, and resume the milk diet in very much reduced quantities, as the child gains ability to handle it.

Among the drugs, castor oil, calomel and bismuth likewise play an important part in this trouble, as will also some of the malt preparations, and the peptonoids, especially in those persistent cases, and in cases where there is very fetid odor to stools, a combination of the sulpho-carbolites in large doses will be found useful.

Stomach washing and rectal injections are beneficial in that they clear the stomach and lower bowels of mucus and other irritating material and produce quiet and rest.

Opium may be given in cases of great restlessness, just for the purpose of securing a little rest, provided this rest and quiet may not be secured by other and less potent means.

Where cases have reached such low state of vitality so as to have lost all appetite for food, then sometimes feeding by the tube—gavage—for a few days is a life-saving means. Salt baths followed by oil injections may also prove of service in cases of very much reduced vitality.

In cholera infantum, treatment must be directed to the support of the patient. Hypo-

dermic medication offers the best way to counteract the immediate dangers; thus only can we secure the much needed sedation and support. Strophanthus and brandy may be given to sustain; and morphine and atropine, may be used to quiet vomiting, and to diminish the loss of body fluids from the repeated large watery stools.

In the after care of these cases when it has not been necessary to consult the undertaker, and the more violent symptoms having subsided, then must we be most careful in the selection of means to assist the much exhausted system to regain its equilibrium. Plenty of pure water, and pure but very much diluted food, very guardedly given for a time.

NEWS ITEMS AND COMMENTS

FRANKLIN—The Tri-County Medical Society will be the guest of the Simpson County Medical Society July 9th. A fine program is to be given.

GARRARD—Dr. D. F. Smith, of Knox County, Kentucky, has purchased the Lancaster Hospital Building and will practice his profession at this place in the future.

OHIO—Dr. F. B. DeWitt, Rockport, Kentucky, has moved to Utica, Daviess County.

Dr. L. B. Watkins, of Louisiana, has located at Cromwell, Kentucky.

ELLIOTT—Dr. J. L. Lyon, of Sandy Hook, secretary of the Lyon County Medical Society, has moved to Willard, Carter County, where he will continue his practice.

NELSON—Dr. H. E. McKay, of Bardstown, whose health has not been satisfactory for some weeks, has gone to French Lick Springs to try to improve his condition. May he return sound and well.

WARREN—Dr. Lillian H. South, State Bacteriologist, gave an interesting lecture on "Hookworm," at Winchester, before a large audience, on the 25th of last month. She also visited Torrent, in Wolfe county, and gave a similar lecture.

CHRISTIAN—Dr. N. C. McGraw has a new "Flanders 20."

Drs. B. A. Caddle and W. S. Sandbach are the happy owners of a new 20 horse-power, five-passenger Ford, each.

The majority of our physicians are using machines now.

BELL—Drs. W. C. and John F. Evans have their new hospital in Middlesboro fully equip-

ped and are beginning to receive patients.

Dr. McCunley Arthur, of Middlesboro, has been very low with organic heart trouble for the past month but is slowly improving. We wish for him a speedy recovery.

JEFFERSON—Dr. Lewis S. McMurtry, former President of the American Medical Association and one of the most popular physicians in Kentucky, delivered the doctorate oration before the Trustees, Faculties and Graduating Classes of the Medico Chirurgical College of Philadelphia, at its Thirty-Second Annual Commencement, in the American Academy of Music, on Friday, June 7th, last.

WASHINGTON—Dr. W. P. Nichols, who has been engaged in the practice of his profession at Willsburg, Ky., for the past year, has removed to Chaplin, Nelson County.

Dr. W. T. Barnette, who has been practicing several years at Mackville, Ky., has moved to Springfield, where he will continue in the practice of his profession.

BELL—The W. K. Evans Hospital was opened to receive patients the 15th of March, 1912. Graduate nurses only are on duty in the hospital, and Dr. W. K. Evans is Superintendent. The institution contains twenty-four beds, both private and ward. Rates from \$8.00 to \$15.00 per week. The Hospital has its own ambulance and is splendidly equipped in every way, and has more than made its expenses since the opening.

BARREN—Dr. W. S. Blakeman, of Glasgow, one of the oldest and best known doctors in this county, died June 20th, with organic heart trouble. Dr. Blakeman had been a member of his county society for many years and took a keen interest in the development and progress of medical science. A gentleman of the old school, a man honored and respected by his friends and patients, who will be missed and kindly remembered.

WARREN—The many friends among the profession, of J. G. Denhardt, the genial editor of the Times-Journal, will be agreeably surprised to learn that on the evening of June 25th, he was wedded to Miss Eleanor Heriges, of Nashville, Tennessee. Mr. Denhardt has been a regular attendant at the State Meetings and rendered valuable aid in giving proper press notices of their doings. Always obliging and a gentleman, he has deservedly won a kind regard from all of the physicians who personally knew him and we are certain we voice the sentiment of his friends when we wish him through this column, a long and happy voyage on the matrimonial sea.

BULETT—Dr. J. E. Johnson, of Lebanon Junction, died June 19th, with organic heart trouble. Dr. Johnson for many years enjoyed a large and lucrative practice and was engaged actively in his chosen profession until prevented from doing so about two years ago. His son, Dr. Otto E. Johnson, who took up his father's work at Lebanon Junction, is the only one of several children to adopt the medical profession. Dr. Johnson has been a member of his county society since 1906, and will be sorely missed by that body as well as others who knew him.

SIMPSON—Dr. F. C. Bandy, graduate 1912 University of Louisville, has located for the practice of medicine in Franklin, Ky.

Dr. M. M. Moss has moved to Bowling Green, from Franklin, where he will practice a specialty.

Dr. F. E. McCann, who recently located near Franklin, coming from Montana, has been elected secretary of the Simpson County Medical Society.

Dr. N. C. Witt has taken the office of Dr. M. M. Moss in Franklin, since the latter's removal.

FAYETTE—Dr. Julian McClymonds has returned from Europe where he has been doing special work for six months.

The Doctors in Lexington are fast learning the economic value of automobiles and as the result most of them use it altogether with entire satisfaction.

Dr. Jno. A. Wathen read a paper on "Thyroidectomy" before Fayette County Medical Society. Dr. Wathen is a good speaker and presented a difficult subject in a clear and succinct manner that was appreciated by all.

Dr. A. P. Taylor, of Lexington, was seriously injured by his auto turning turtle while returning from a visit to a patient. It was, however, learned later upon examination, that while his injuries are serious they are not necessarily fatal.

The National University of Arts and Sciences of St. Louis, has conferred the honorary degree of Master of Surgery on Dr. A. H. Barkley, of Lexington, Ky.

The Kentucky State Railway Surgeons met in Lexington, May 16-17, and had a very successful meeting. The next meeting will be held in Frankfort, Ky., in 1913. This is one of the five societies in the State.

BARREN—Mrs. G. F. Holloway has returned from Bowling Green, where she had tonsillectomy performed for the relief of parenchymatous tonsillitis.

Richards and daughter, Miss Rachel, of Glasgow, are in Chicago attending

the graduation of their son and brother, Dr. Clifton Richards, in medicine.

Dr. Ewing L. Palmore, of Hiseville, has been appointed as a member of the board of Pension Examiners of Barren County, to fill the vacancy occurring by the resignation of Dr. R. S. Plumlee, who recently moved to Green City, Missouri.

Dr. C. W. Froedges, of Eighty-eight, is the recipient of a ten-pound son, who will some day take his father's lucrative practice.

Miss Flora Redford, a graduate nurse, is visiting her sister, Mrs. Ira D. Turner, of Scottsville, and expects to extend her trip among relatives and friends at Tompkinsville before returning to Louisville.

Dr. and Mrs. R. H. Porter attended the session of the American Medical Association at Atlantic City, and report a splendid time.

BARREN—Dr. R. S. Plumlee and family, of Glasgow, left last month for Green City, Missouri, where the doctor expects to locate for the practice of medicine. Dr. Plumlee was secretary of the Barren County Medical Society for years, always displaying great activity in promoting the interest of his fellow practitioners. We cheerfully recommend him to the Sullivan County Missouri Medical Society, worthy of every token of professional courtesy which may be extended to him in his new location.

Dr. W. F. Boggess and H. N. Lavell will deliver public address by invitation from the Barren County Medical Society. Physicians and their families are urged to attend.

COUNTY SOCIETY REPORTS

Boone—The Boone County Medical Society met at Walton, on May 15, 1912, with the following physicians present: L. C. Hafer, H. H. Hays, O. E. Senour, F. L. Peddicord, B. K. Menefee, J. G. Slater, G. C. Rankin, Merrell Ricketts, G. F. McKim, C. L. Longsdale, and Brown. Prof. Dix, of Burlington, and Attorney Vest, of Walton, were also present.

An old-fashioned fish-fry was enjoyed at the Atlas Hotel.

Merrell Ricketts discussed "Local Anesthesia," which was very interesting, practical and instructive.

F. L. Peddicord then discussed "Trachoma," after which the society adjourned to meet at Union in June.

F. L. PEDDICORD, Secretary.

Boone—The Boone County Medical Society met at Union, on June 19, 1912, as guests of Dr.

Senour, and was called to order at 8 P. M., by President Menefee.

The following doctors were present: Richmond, Slater, Langsdale, Senour, Hays, Menefee, McKim, Hafer, Crisler, Nunnolley, Phinney and Peddicord; also Messrs. Sammons, Malls and Vashell.

O. E. Senour read an interesting paper on "Enterocolitis," which elicited a hearty discussion from **Phinney, Nunnolley, Crisler, Langsdale, Hafer and Menefee.**

C. L. Langsdale read a paper on "Hernia," which was very interesting and ably handled. Discussed by **Crisler, Hafer and Menefee.**

At 10:30 an elaborate lunch was served which was very much enjoyed by all present.

The society then adjourned to meet with Dr. Hays, of Bullittsville, on Wednesday, July 17, at 2 o'clock P. M.

F. L. PEDDICORD, Secretary.

Ballard—We are having monthly meetings this year but owing to bad weather and very bad roads we have had very poor attendance till last month and I am sure now that the monthly meeting will be a success with us.

The society met last on May 2, at La Center, with the following members present: J. D. Hollings, W. A. Ashbrooks, C. E. Harkey, T. M. Baker, J. R. Baker, J. E. Martin, D. E. Burrow, Bob Overly, Prof. C. C. Justice, W. W. Richmond of Clinton, and J. S. Johnson.

Prof. C. C. Justice read a paper on "School Sanitation" which was freely discussed and enjoyed by the society.

W. W. Richmond then talked of preventive medicine, especially hookworm, and distributed mailing cases for specimens. The society became very much interested in hookworm disease and after much discussion and many questions which were answered in an able way by Dr. Richmond, the society adjourned to remain till evening and hear Dr. Richmond lecture on "Hookworm," which was given to the public. This lecture was an exceedingly good one and was very much enjoyed by the large audience that heard Dr. Richmond.

We hope to give more of Ballard county people the opportunity to hear Dr. Richmond in the near future. The people of our county are easily interested in questions pertaining to health and we are anxious to help them.

Bell—The Bell County Medical Society met in Pineville, at the Court House, May 10, 1912. The meeting was called to order by the Vice President, Dr. W. K. Evans, and the following members responded to roll call, Drs. Evans, Foley, Combs, Cornum, Schmitz, Robertson, Brosher, Giannini, Nuckols, Hendren, Haston, Ingram, Bingham, Morehead and Gibson.

The minutes of the previous meeting were read and adopted.

G. T. Cornum presented a clinic, a case of Pellagra.

B. E. Giannini presented two cases of hookworm disease and read a very interesting paper on the subject.

Mason Combs and J. G. Foley, reported interesting clinical cases.

T. T. Gibson read a paper on "Alcoholism."

Both the essayists handled their subjects with skill, bringing out all the essential facts, and both papers were ably discussed by several members of the society.

There being no further business before the society, the meeting adjourned.

O. P. NUCKOLS, Secretary

Barren—The Barren County Medical Society met in Glasgow, June 11, 1912. Members present: White, Acton, Smock, Taylor, Ashury, Ferguson, Porter, Miller, Honaker, Botts, Turner and Jordan.

The meeting was called to order by President Smock. Minutes of last meeting were read and approved.

There being no clinical cases present, **A. E. Ferguson** introduced the subject of "Mucous Colitis," which was interestingly discussed by several members.

R. H. Porter, having attended the meeting of the American Medical Association, at Atlantic City, gave an interesting talk on the work being done by that great body.

The Committee appointed to arrange for our annual social meeting, made its report and was discharged. In accordance with suggestions made by the committee, it was agreed that the meeting be held July 9, that Professors H. N. Leavell and W. F. Boggess, of Louisville, be invited to attend as guests, and deliver popular addresses in the afternoon and evening. Committees were appointed to arrange as far as possible to make the meeting profitable and enjoyable.

J. W. Acton read an excellent paper on Lobar Pneumonia which was discussed by nearly every member present. Opinions differed somewhat on several minor points, but this only made the discussion more interesting.

The Secretary announced the following program for our next or a subsequent meeting—each writer to select his own subject.

1. Paper by **Dr. Ferguson**; discussion by **Dr. Honaker.**

2. Paper by **Dr. Froedge**; discussion by **Dr. Ashury.**

3. Paper on "Pneumonia," by **Dr. Grinstead**; discussion by **Dr. Taylor.**

Adjourned to meet July 9th, at 10 a. m.

J. M. TAYLOR, Secretary.

Barren—The Barren County Medical Society met in Glasgow, May 14, 1912. Members present:

Turner, Miller, Smock, Botts, Acton, Siddens, Palmore, Taylor, Ferguson and Asbury.

President Smock called the meeting to order at 10 A. M.

The Secretary's report of last meeting was read and approved.

There being no clinical cases present, reports of cases were called for.

T. F. Miller reported three cases of "Gonorrhea," which he treated successfully with the gonorrheal vaccine. These were all severe forms, one being gonorrheal rheumatism. In two cases the staphylococcus vaccine was used in combination. The result in each case was a complete success. Dr. Miller sees much in the vaccines to encourage the general practitioner.

C. C. Turner reported a case of "Typhoid Fever," which ran a typical course until convalescence was apparently established, when without any discoverable cause, the patient relapsed, and his condition became critical. The illness was prolonged two weeks, resulting in complete recovery. An interesting discussion followed Dr. Turner's report.

Afternoon.

The committee appointed at last meeting to arrange for our annual social meeting, not being ready to report, were given more time.

A. T. Botts read a paper on "Hec-Colitis," which was appreciated by all present. Dr. Miller agreed mainly with the paper, but suggested the use of warm starch water by injection, and judicious fasting, in connection with the other means mentioned. **Dr. Turner** relies on bismuth more than any other single drug. His experience leads to fear complications and sequelae.

W. F. Asbury relies much on medicines, but more on proper dietary. Condensed milk has been a favorite with him. **E. E. Palmore** agrees mainly with the paper, but prefers symptomatic rather than routine treatment. **J. W. Acton** praised the paper as being thorough and up to date. He believes opiates fill an important place in the treatment of this disease.

Motion carried that Dr. Botts' paper be sent to our JOURNAL for publication.

The chair appointed A. T. Botts to assist in arranging programs for our regular meetings.

The following program was announced for our next meeting:

1. Paper on "Pneumonia," by Dr. Acton.
2. Paper or talk by Dr. Bullock on "Cholera Infantum."
3. Paper on "Sanitation," by Dr. Depp.

W. T. Britt is still held for his paper on "Constipation," as appointed last meeting.

Adjourned to meet June 11, 1912.

J. M. TAYLOR, Secretary.

Carter—The Carter County Medical Society met in regular session at E. K. Junction, May 14, 1912. The quantity was slim, yet of the highest quality and consisted of H. B. Fraley, J. W. Sto-

vall, H. W. Fulkerson and D. B. Wilcox. The President of our society, L. M. Sparks, having gone to Nebraska to locate in a more prosperous field, and G. R. Logan, vice-president, being absent, we elected J. W. Stovall president pro tem.

H. W. Fulkerson kindly tendered us the use of his office which we accepted as a place to hold our meeting and before he could say "seat" we had him on our list as a member and told him the Journal would reach him at Anglin, Ky. Four or five subjects were brought up and given a thorough airing and it was all in all a most enjoyable "meet". Regrets were expressed that G. B. O'Roark and L. M. Sparks were both leaving the State, both having been presiding officer of our society.

D. B. WILCOX, Secretary.

Calloway—The Calloway County Medical Society held its regular monthly meeting Wednesday, June 5th, with the following members present: C. N. Crawford, Linn Grove; R. P. Crawford, Hazel; E. B. Houston, Hazel; C. E. Clayton, Dexter; R. T. Nix, Jones's Mill; B. B. Keys, N. G. Evans, N. H. Mason, P. A. Hart, C. O. Gingles, W. G. Gallimore, R. F. D., S. D. Younte, Murray.

W. W. Richmond, of Clinton, our Councillor, whom we all know and love, met with us and it is useless to say the meeting was very good—our only regret being that on account of sickness in our county just now, more of our members were not able to attend.

The regular program was suspended and Dr. Richmond invited to address the meeting. He gave the society a report of the sanitary measures adopted in the flooded districts of Kentucky from the recent overflow of the Mississippi River, and the results of same. He stressed the importance of sanitation at all times in all conditions of life, and insisted that every doctor present at this meeting go home and preach the "saving gospel" of sanitation and hygiene.

We think the Doctor had this subject on his brain. He lectured on it to the general public the evening before and we thought then he said all that could be said without repetition but when he addressed the society we found he had a lot in reserve.

The rest of the morning session was devoted to discussing the best means to improve the sanitary condition of Calloway county.

Because of the many calls for the doctors it was voted to adjourn and continue the regular program at the next regular meeting.

The Doctor was tendered a vote of thanks and extended a cordial invitation to meet with us not less than once a year.

W. H. GRAVES, Secretary.

Hart—The Hart County Medical Society met in Mumfordsville, May 7th, 1912. Those present were S. F. Richardson, J. J. Mudd, W. W. Bowl-

ing, C. Hall, E. L. Addington and J. J. Adams.

W. W. Bowling had a case before the society, an "Aneurysm of Abdominal Aorta," this case was examined by all present and there were some that differed with the doctor in diagnosis, saying that his patient was a neurasthenic with some gastro-intestinal trouble, etc.

Pellagra, hookworm and some drugs were discussed at some length and all took an active part in the discussions and left feeling that they had been benefited by the meeting.

J. J. ADAMS, Secretary.

McLean—McLean County Medical Society met at Calhoun on June 14th, 1912, with W. P. Miller, vice president, presiding; present: Miller, Thorpe, Moore, Spicer and Haynes.

The following officers were elected: President, J. H. Thorpe; Vice President, W. P. Miller, and Secretary, W. L. Haynes.

J. H. Thorpe reported a very interesting case of "Hypertrophy of the Mammary Glands, in a woman who had borne only one child, now ten years old. The glands have constantly enlarged until they reach below the umbilicus. He thinks, however, that they are being reduced somewhat under the use of large doses of potassium iodide.

The society will be pleased to see reports from other physicians who have had such cases.

On motion the society adjourned to meet July 23, 1912.

W. L. HAYNES, Secretary.

Montgomery—The Montgomery County Medical Society held its regular meeting May 14th, at the office of W. T. Smrall. Present, J. A. Shirley, W. T. Smrall, J. F. Reynolds, D. H. Bush, P. K. McKenna, J. B. Jones.

The article on Fee Splitting, by Dr. C. A. L. Reed, of Cincinnati, Ohio, in *Pearson's Magazine* for April, 1912, was read and endorsed by this society. If there has been any fee splitting in this county there were none present that were aware of it. The President and Secretary were instructed to write to Dr. Reed informing him of the action of this society on said article.

This was our regular meeting for the annual election of officers. At the April meeting a motion was carried to amend Section 3, Article 1, of our by-laws, so as to elect officers at the December meeting instead of May. This amendment had to lay over to the May meeting before it could be voted on; at this meeting it passed without a dissenting vote. So from this time this society will elect its officers at the December meeting.

A motion was carried that the present officers hold over until the December meeting; those officers are J. A. Shirley, President; R. E. May, Vice President; J. B. Jones, Secretary; W. T. Willis, Treasurer; Censors, W. T. Smrall, D. H. Bush, S. E. Spratt; Delegate, C. B. Duerson.

The President and Secretary were instructed to write to our State Senators and Congressmen of this district asking them to support the Cazen Bill for a National Board of Health.

B. M. Mannin, of Spencer, this county, and **J. F. Lockhart**, of Kiddville, Clark county, have located here and we are hopeful that they will soon be members of this society.

Lack of interest in the society with a number of members is our great drawback but we have a faithful few who are rarely absent, but one of these failed to appear at this meeting; he had a good excuse and the same one that the man gave for not being present at the "Great Supper" in Luke 14:20, and we extend congratulations and best wishes for happiness, peace and prosperity to our worthy member, Charles Buford Duerson, and bride, (Miss Nell Herbert Whitfield) who were married in Lexington, April 20th, at the residence of the bride's parents.

J. B. JONES, Secretary.

Lyon—The Lyon County Medical Society met at the office of Dr. Hussey, Edlyville, May 9th, at 2 p. m.

L. P. Molloy, selected at the last meeting for a paper on "Breesh Presentation," being absent, **W. G. Kinsolving** opened the discussion with a very interesting and instructive talk on this very important subject, other members of the society and **W. W. Richmond**, of Clinton, taking part in the discussion, bringing out graphically many complications arising in these cases.

W. W. Richmond, at the Lyric Theatre, at 7:30 p. m., gave a public lecture upon Scatition and Hookworm disease, demonstrating same with stereopticon views. The meeting was largely attended, and every one seemed much impressed with the lecture, and I feel sure its result will be a great benefit to the public.

J. H. HUSSEY, Secretary.

Test for Albumose in the Urine.—Fittigaldi mixes the specimen of urine with six times the amount of alcohol. The next day the alcohol is decanted, the sediment dissolved in as little as possible of a solution of sodium hydroxide (31 to 32 per cent.), and the alkaline solution is tested with the ammoniacal solution of nickel. This reagent is a mixture of equal parts ammonia water and a 5 per cent. solution of nickel sulphate. It is bluish, but when a drop of this reagent is added to the alkaline mixture above, the tint changes to orange in the presence of albumose or peptone. The method can be applied to the blood, first heating to boiling after it has been well mixed with animal charcoal (10 to 20 gm. to 10 or 20 c.c. of blood). The filtrate after cooling is mixed with six times the amount of alcohol as above. This method does not require preliminary removal of the albumin from urine and there is no possibility of confusion with albumin, as the latter never gives the orange reaction.

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ORIGINAL ARTICLES

THE PSYCHOGENESIS OF HYSTERIA.

(AN ADDRESS.)

By CURRAN POPE, Louisville.

In attempting to present to you the subject of the psychogenesis of hysteria, in the very brief time at my disposal, I feel like one who has passed the Laodcean monster and entered the Garden of Hesperides and finds himself beneath trees laden with golden apples. There are so many tempting things—like so many tempting golden apples—that it will be impossible to do more than select from here and there certain interesting features of the psychogenesis of hysteria. In other words, I have a great deal to tell, in a very little time.

In order to understand the pathology of hysteria, it is essential that we should first understand the normal method of thinking. The first drawing which I exhibit is not an original one; it is taken from Starr's old work on "Functional Nervous Diseases," but it serves its purpose very nicely in that it gives us a basis for the understanding of a "concept." A concept is an idea. If we will take the idea of a bell and dissect it mentally, we will find that it is made up of a great many things. It is made up of the sight of the bell, of the touch of the bell, of the sound of the bell; of the various motor and sensory features that go to make up any mental idea of concept. We have auditory and visual memories; word hearing, word seeing, word uttering and word writing memories; various psychic ideas that go to make up the concept of such a simple thing as bell.

Now, starting with this idea, suppose we let the big star in the second drawing represent a "concept." A child, starting in with the concept of bell, gradually builds around the central nucleus; that concept gradually gathers ideas of different kinds of bells and the uses of bells, cow-bells, locomotive bells, and the "tintinnabulation of the bells, bells, bells" as Poe has said. All these additional ideas are generally gathered around it until we have a complex idea; that is to say, the "concept" bell has become the "constellation" bell. Just as astronomers tell us that a collection of stars in the heavens is a constellation, usually with one large central planetary or star body, so it is with an idea; it starts with a concept, around which other ideas are built. The lines on this drawing connected with the central star indicate the various ideas as they collect around the original concept, and is designed to show that they are related to it by many connections, coming from a great many directions in the brain, usually through the association tracts.

We read a great deal about the word "complex" in the neurological and psychological literature of to-day. A complex is not an entity; it is not something that can be felt and measured, but it is, to the psychologist, what "ether" or "atoms" are to the physicist. It is something upon which we may build an hypothesis of mental action. The complex has come to stay with us in neurology and psychology as the basis of ideas. Speaking in very broad terms, a complex is made up of thousands of ideas. But it is not enough for a complex to consist simply of ideas; it must be ideas plus something else and, therefore, it is ideas plus emotions, and these emotions play a great part in the understanding of the

action of a complex and in the appreciation and understanding of hysteria. Now, in order to make my argument a little more illustrative, I will go back to the bell. Taking a simple complex, we might, using a little piece of poetry, put it this way: "The bells-of-Shandon-sound-so-grand-on-the-pleasant-waters-of-the-river-Lea." (Dull-monotonous) but when we put emotion into it, thus: "The bells of Shandon sound so grand, on the pleasant waters of the river Lea," (Intonation) it makes an entirely different impression, both in the spoken time and words as well as in the personal attitude and feeling of the individual.

When we have gathered a certain number of memories into a constellation, or into a complex, with its varying emotions, every new idea that comes in is incorporated into that complex, becomes a part of that complex, and adds to its influence, both attractive and dettractive.

Now then, we will move one step farther, to a higher stage—to a question of personality. Personality is the sum total of the individual. You are yourself and I am myself, and we are alike neither in looks, feelings, actions nor thoughts. Your personality and my personality represent the sum total of our knowledge, of our experience, of our emotions. I have endeavored, in this chart, to put upon paper my idea of how personality is made up. Personality, is essentially mental; that is, speaking in general terms, is essentially mental. Therefore, I have put "mind" in this large outer circle on the chart. This mentality—this mind—has been built up by impressions, by knowledge, that has been brought to it through the muscles, through the skin, through the special senses, through the moral training we have received during our lives, so that when we take the sum total of all of these experiences they represent, in finality, the personality of the individual.

Now, let us pause for a moment and come to the question of hysteria. Hysteria is not the hysteria that is taught, and that is found so much in text-books, save in the symptoms and in the theories. That is a very broad statement to make. I may say, further, that neurasthenia, neuritis and hysteria are the great waste-basket into which ignorance casts its papers. Lasagne, the great French physician, said, "It is the basket for those papers that we do not know where to place."

Gowers has said: "Hysteria is a conception that conceals whatever it covers; we must rescue from it whatever we wish to study."

Says Wilson: "That the domain of hysteria, ranges from insanity to renal disease and from double personality to gangrene is ample evidence for complete reinvestigation."

Hysteria is a disease of the highest level of

the mind, or the psychic level, and the greatest problem presented to the psychologist—not the neurologist—but the greatest problem presented to the psychologist in the treatment and management of hysteria is a thorough and complete understanding of the mechanism of the symptoms themselves, the machinery that is behind the production of the symptoms. It is an easy thing to classify an hysterical paralysis; or, oftentimes, in our endeavors to find anesthesia in an arm, to make an anesthesia, but it is a very difficult proposition to find out what is the mechanism back of the production of that particular symptom, because the symptom originates in the mental machinery of the individual.

I am going to briefly run over four theories of hysteria, three of which we may dismiss cursorily.

First, the physiological theory of Sollier:

Hysteria is a physical, functional disturbance of the brain, consisting in a torpor or a sleep localized or generalized, temporary or permanent of the cerebral centers, and manifesting itself consequently according to the centers affected by vaso-motor or trophic, visceral, sensory and motor and finally psychic disturbances, and, according to its variations, its degree of duration, by transitory crises, permanent stigmata or paroxysmal accidents. Confirmed hysterics are only vigilambulists, whose state of sleep is more or less profound, more or less extensive."

This definition is nothing but a statement of dissociation in physiological terms.

This theory can be dismissed without comment. American medical men, I am sorry to say, are, consciously and unconsciously, prone to adopt this theory of the physiological side of hysteria.

The second is that of Babinski:

Babinski says that it is possible in certain subjects to "reproduce by suggestion, with vigorous exactitude and cause to disappear under the exclusive influence of persuasion, the symptoms of hysteria." That is to say they are produced by suggestion, removed by persuasion. While we owe a debt of gratitude to Babinski for exposing the faulty methods of examination, which can originate hysterical symptoms, still his theory is, in my mind, artificial and does not reach the fundamentals of the condition.

Babinski falls down when he comes to explain the difference between suggestion and persuasion. He says that suggestion is the devil and persuasion is the angel; that suggestion means to influence the individual to accept an idea which offends the reason and is manifestly irrational, but it is persuasion if the idea is reasonable and rational. Incidentally, it may be said that Babinski's theory

is not reasonable and rational nor does it work out in practice.

The third is the biological theory advanced by Sedis and Claporede. The latter accepts Freud's theory (of which I shall speak later); both lay particular stress upon the fact that hysterics show marked resistance to the recall of painful memories, which he considers to be, biologically, a defense reaction. He also believes that sleep is a defense reaction; that we do not sleep because we are exhausted but in order not to be. This latter I am inclined to believe to be true in the main.

Sidis believes that sleep originates from the semi-waking state—the hypnoidal state, out of which may develop on the one hand sleep, and the hypnotic state on the other. He believes that one cannot pass in or out of sleep or hypnosis without passing through the hypnoidal state.

The fourth theory is a purely psychological theory. The theory that is generally accepted to-day is a combination of the work of Janet, of Paris, and Freud, of Vienna, who are very frankly psychological in their beliefs. We will take Janet first. He believes that, underlying the manifestations of hysteria, there is an amnesia, or forgetfulness; that is to say, an absent-mindedness. He says: "Under the stress of some mental shock, or at the bidding of some imperious impulse, the hysterical subject falls into a kind of half faint, or reverie, and loses touch with his surroundings; his voluntary activity comes to a standstill; the amnesia or somnambulism has commenced. He lives the same scene over again, goes through the same actions; he gives himself up to the thralldom of some idea to the exclusion of all others; stimuli from without do not reach him through the ordinary avenues of sense. He is in a dream, living in a little world of his own, which amounts to the sum of the memories and fancies of a particular time-hysterical fancies in his experience." When he awakes, that is, when he becomes conscious, or, in other words, recovers his personality, this much of his personality is shut off from consciousness; that is to say, he has completely forgotten the scene which has just been enacted.

Now, in order to understand and appreciate how an individual can forget what he has been thinking of, we must turn from Janet, who has gone no farther than this, to Freud, who has brought to the scientific world of psychology a new thought. Freud says that psychic determination rules mental life just as much as the physical world is ruled by its laws; that every mental act is just as well determined as the fall of an apple is determined by the law of gravity, and that no one can get away from this fact. He says that the human consciousness—and by consciousness

is meant by the sum total of an individual's receptive condition at any particular time—that the consciousness of an individual must be divided into three levels. First, the level known as "conscious"; that is to say, thoughts of which we are aware, of which we know what is taking place at the time. This forms a very small part of an individual's mental activity. Underlying that is another form of consciousness, which he calls fore-consciousness. In fore-consciousness, the conscious mind can call to its aid all that is stored there; in other words, it is what is commonly known as sub-consciousness, if we want to term it that. The conscious mind can utilize the fore-conscious mind in calling to its aid all of the facts stored in it. But Freud drops one level farther than any other psychologist, and says that, underlying the conscious and fore-conscious is a vast reservoir of which the individual is totally and absolutely unconscious; and out of this "unconscious" he cannot pull ideas; they can only be reached in a roundabout way, as illustrated by the zig-zag lines on the chart; that it is into this unconscious domain that the fancies of which Janet and Freud write so much—it is into this vast unconsciousness that ideas are dropped or pushed.

Now, why should an idea be forced into the unconscious? The only way that we can learn why ideas are forced into the unconscious is to go back to childhood, and many hysterics go back to childhood. The child, when it is born, is in a certain sense unfinished, uncivilized and unpolished. It goes through a course of education, and this education consists essentially of repression; in other words, the child is constantly taught to repress. It is brought up and schooled in the idea, "Don't do this," and "Don't do that," "Don't do this" and "Don't do that" because it is wrong—it is not nice—it is incorrect, so that parents, in teaching children the tenets of civilization are teaching many of them to be hysterics; they are building what Freud calls certain "psychic dams" and "barriers;" they are building up the barriers of loathing, reproach, fear, moral ideas, esthetic ideas, pain, anxiety, sympathy, and injury. Let me make that just a little bit plainer. The child sometimes plays with its feces. The mother immediately corrects it; she reproaches the child; she teaches that child, through fear of punishment, to repress the instinct to act without control; in other words, she teaches that child to repress—to push down—to pull under the instinctive tendencies that are there, and she does that by building up certain moral ideas. "Don't pull your dress up." "Why?" Because it is not moral; it is not nice; it is not esthetic. And so, day by day, these psychic dams and bar-

riers are built up, and the instinctive tendencies, the instinctive desires, the instinctive wishes of the child are crushed down into this unconscious part of the brain and are there stored.

Freud says that hysteria commences when two complexes (you will remember that a complex is an enormous group of ideas, plus emotion) come in conflict. The complex on the one side says, "I want to do this;" the complex on the other side says, "I ought not to do this;" the psychic dams and barriers that have been built up tell him that it is not right to do so. Immediately a conflict arises; a conflict between the good on the one side and the bad on the other. In a good many individuals these opposing forces are equally strong. The subject exercises what he, or she has been taught to exercise—repression, and this idea is repressed into the unconscious. Now, although a conflict has taken place and the idea has been repressed into the unconscious, it has not been killed; it leads an independent existence, is alive, powerful and desirous of coming out, but the "good" sits on the lid and tries to hold it in, and it keeps trying to come out, so that in the end, in hysteria, the two get together and effect a compromise, and Freud's theory is that this is, so to speak, a "compromise with dishonor." In endeavoring to forget, in forcing the idea into the unconscious, and its endeavor to escape, as a result of this conflict a compromise is effected, and we have hysterical symptoms. In other words, then, the hysterical symptom is the result of the conflict between the two complexes, the one trying to get out and the other trying to repress it. Let me illustrate this with a more homely example of a conflict. Let us suppose that a young man is deeply in love with a young lady, but that he has no money and is absolutely dependent upon his father for support. The father is bitterly opposed to the match and opposes it in every way, in an endeavor to compel the young man, if possible, to give it up. One day the young man, sitting, as Janet has said, in a quiet and contemplative frame of mind, pictures to himself what a grand and glorious and beautiful thing it would be to be married, to have his own home, to have his own wife—to have everything just as a *gallant* and his lady would like to have it, and thinking that, if his father would only die, he would get all his money and be able to carry it all out. Suddenly he arouses to the fact that he is actually, mentally, a parricide, wishing for the death of his own father, the man who has brought him into the world, who has nourished him; that he is in reality, in thought, a viper, biting the very breast that has nourished and warmed him. The idea is very hor-

rible to him. Instead of, as a normal individual should, confessing the idea and admitting that it is horrible and he should not have entertained it, he says, "Get thee behind me, Satan," he will not tolerate it, and immediately there arises a conflict between the wish for the death of his father on the one side and the moral repression on the other, with the result that the idea is repressed into the unconscious, and he, or she, develops an hysteria. To put it another way—what has happened? This idea has been driven into the unconscious, and the individual is totally unaware of it; in other words, a part of the individual's personality has literally been split off, just as we would take a knife and split a shaving off a shingle, but at the same time allowing the split-off portion to remain connected at one end with the unconscious, the real idea, and connected at its other end with the hysterical symptom. That is in a crude way Freud's explanation of how an hysterical symptom develops.

The hysterical symptom, then, is a mental creation which takes the place of a disagreeable idea; or, as Freud calls it, a "surrogate creation." But this hysterical symptom is distorted and disfigured; it does not tell you what the idea was. No hysterical symptom will do that. It simply stands there as the representative—as the advance agent, if you please—of what is really hidden in the lower regions of the individual's mind. Freud says that the hysterical patient then gains a certain amount of relief. The conflict is ended; the idea has been repressed. Now the hysterical symptom, if we choose to put it that way, or the complex, may take one of two forms. It may take a physical form. In that shape it is represented by a physical symptom—we will say an hysterical paralysis of the arm. Freud says we then have a "conversion hysteria;" that is to say, the idea hidden in the unconscious of the brain has been "converted" into a physical symptom; in other words, we have a conversion symptom—a conversion hysteria. This gratifies the patient; it satisfies the complex; both of the complexes are satisfied. They have had their altercation, they have agreed upon a compromise and the whole thing is settled; the hysterical symptom represents the final papers in the settlement: both sides are satisfied and both sides are gratified. Now, gentlemen, therein lies the difficulty in getting rid of hysterical symptoms. An hysterical symptom stands for a gratified wish, and the patient does not want to give up the gratified wish because it means a return to the conflict, a return to the old order of things—an order that has been settled and disposed of, and that is the reason why these patients hold so strongly to their hysterical symptoms. We must suppose

that there are certain individuals so constituted that they are subject to physical conversion while there are others so constituted that they are subject to "psychic substitution." If, as a result of the conflict, the idea is not converted into a physical symptom, then we have a substitute for the conflict; in other words, the substitute remains in the mind and does not reach the body, and here we have an explanation of the various phobias and morbid dreads, of so-called psychasthenic conditions, of the "compulsion neurosis." Therefore, when the splitting-off, or dissociation of personality takes place, it may occur in one of two ways, either as a conversion into *physical symptoms*, or as a *psychic substitution* into morbid fears, or morbid dreads; it may be simply an intense morbid depression.

Now, how are we going to reach something that the patient cannot tell us anything about? These individuals are unable to tell us one single thing about the conflict; how it originated, or that there was any conflict. If you were to know it and mention it to them they might absolutely deny it. We will have to go back again to the explanation we had of a complex. The hidden complex in the unconscious has strings attached to it. The ideas that are so devious and disagreeable in character have little strings connecting them in a roundabout way with the fore-conscious, and we must by psychological methods pick up these little golden threads and follow them, just as the King followed the golden thread in the mazes of Hampton Court to his lady love hidden in the center, so the psychologist of to-day picks up the thread that leads by devious ways, into the unconscious to find out the origin of these morbid fears and hysterical symptoms. We can often reach the unconscious by what is known as the "association test." Words often stand for actions, and thus, by reading out say a list of 100 words, to a patient, one at a time and allowing him to answer to each, the first words that come into his mind and timing the answers with a stop-watch, we can often times gain very valuable data which will pull us on the rail. One of the most valuable ways of reaching the unconscious is through "dreams." Dreams tell us, in symbolism and in allegory what is hidden in the unconscious. When the conscious and the fore-conscious drift off into sleep, the unconscious has its inning—it comes to the bat; and, while even in sleep, the least cannot come out in the shape in which they originated, they may come out in allegory and in symbolism, and he who can read allegory and symbolism of dreams will, in little while, be able to trace the idea which originally gave rise to the physical symptoms of psychic substitution.

Or, we may subject the patient to psychoanalysis; that is to say, we may subject the patient to open, free association, having him talk and tell us everything that comes into his mind, letting his mind drift hither and thither, here and there, in a zig-zag, unconscious sort of way. In this roundabout way at times directed by the physician, we will be able to reach the underlying idea that is causing the trouble.

The subject that I have brought before you to-night is, in my humble opinion, one of the most significant contributions to medicine and psychology that the world has ever known in many years. Freud has met with the most violent opposition. Everybody does. Pasteur, with his fermentative bacteria, had the whole scientific world on his shoulders; Lister was divided, and what is he to-day? It is nothing new. Freud has been doing this work for fifteen years or longer, and to-day it is reaching out to the psychology of every act, every deed, of the human race, and it has been actually applied in the following. Hysteria, anxiety neurosis, compulsion neurosis, psycho-neurosis in general; the psychology of every day life etc., why we forget, why we like this and like that—all things of every-day life that are not really pathological.

In the last *Journal of the A. M. A.*, Bailey and somebody else brings the psychology of Freud to bear on the rhythmic movements of idiots and imbeciles. It is to-day accepted by the very best men in this country—such good thinkers as Jones, of Toronto; Putnam, of Boston; Brill, of New York; Stanley Hall, in part by Morton Prince and I might add by many psychologists all over the country. They generally accept the following:

First, determinism, that all acts are psychically determined.

Second, that there are such things as psychic-conflicts, and psychic trauma, and that the symptoms and causation of the various phenomena are the result of repression.

The questions of conversion and substitution are, of course, natural correlaries of the others; if one accepts the foregoing, he must also accept the aftercoming.

I have treated a number of patients by this method in the past three or four years, and I have had the good fortune to have secured some most interesting and satisfactory results. If the complex can be reached, abolished or satisfied, the morbid manifestations of that complex will cease. Psycho-neurotic, neurotic, and hysterical symptoms can be all avoided if we can but convince the personality of the patient that he was wrong in resisting the pathological wish; in other words, if this young man could have been made to realize that there was a pathological wish but that everybody has that kind of wishes, and

that a normal, strong, healthy man admits them, faces them and conquers them—if we can make him admit the repressed idea, we can in this way get rid of the trouble. When we have found out what is back of the symptoms, we can make the patient take up the conflict and fight it out, rise to sublime heights and overcome it; or make him strive to follow out his life in a better way; or, we can put him through a process of mental re-education, and that is what a great many of these cases require.

From my own personal observation, and from study of the methods of Janet and Freud, I have come to the conclusion that the average individual, when he first studies the various methods and work of Freud, is apt to cast them aside as altogether wrong and improbable. I did it myself. If, however, one conscientiously tries the methods, he will keep on trying, and find therein satisfying experience and explanations of mental and physical symptoms that were to him inexplicable, puzzling, incomprehensible. The study is a profound one and is at first puzzling and difficult to understand. All of Freud's works and writings are most difficult books to master. There is not, in English, one good text-book on this subject for the student or practitioner, and very little general progress will be made until this is had. The Freudian psychology has a special and peculiar nomenclature of its own, most of which is difficult of comprehension, and which I have endeavored to eliminate to-night. The fundamental principles, accepted to-day, are, determinism, conflict, repression, mechanism of the causation of symptoms. The treatment of these cases is in reality a specialty of itself, or a specialty within a specialty. Freud's theories have now reached a point where they must be subjected to investigation in an absolutely impartial manner by the profession, and the truth, in whole or in part, determined. The time has come, gentlemen, when we must emancipate ourselves from prejudice, from the feeling that we must reject something because we do not know what it is. The day has long since passed when a medical man should be willing to admit to himself that he would oppose anything because he did not know about it. The time has come when we must be broad-minded and liberal enough to realize that while in one man's life-time he may be able to see many things and do many things, yet he masters only one thing; he who works must be content to be worker in one field and a receptor in others. At the start, my position in this matter, I am sorry to say, was a false one. I rejected it, but was induced through personal persuasion to take it up and work with it, and I have become thoroughly

converted to the facts. They are called *theories* but in reality they are *facts*. In reviewing my own experience, and from the talks I have had with others, I feel to-night that my position in this as well as in many other things, will hereafter be, that of Hamlet, on the platform at Elinore, when he said to the ghost, "Go on, I will follow thee."

DISCUSSION.

Jno. J. Moren: Dr. Pope has given us a very good talk on a very interesting and a very important subject. There is no doubt in the world but that we are very materially influenced by the impressions gathered in early life. I have seen this demonstrated in a number of instances in my own practice, and I am thoroughly satisfied in my own mind that many things occur that lead to the development of the various psychoses, morbid fears, etc. Dr. Pope has, I think, given a very excellent explanation of Freud's theory. The only point upon which I would take issue with him is upon the question of hysteria. There is no doubt that many psychoses, so-called psychasthenia, morbid anxiety, anxiety neurosis and morbid fears, may be explained by the theory which the doctor has expounded, but I cannot concede that this explanation fits all the cases of hysteria that we meet with in daily practice. I cannot get rid of the old idea of heredity in connection with hysteria. The longer I practice and the more cases of hysteria I see, the more firmly I become convinced that its basis, the groundwork on which it is constructed, is in the original make-up of the individual. Why is it that two, three, or four individuals belonging to one family will develop classical symptoms of hysteria? Can you explain that except upon the individual characteristics of that family. The doctor speaks of "personality" and "emotions". In my opinion, hysteria hinges upon mental disturbance dependent upon an hereditary defect. Various emotions may bring it out, but they are the exciting causes and not the principal factors.

I think all these points should be considered before we accept this theory as the explanation of all cases of hysteria.

C. H. Harris: It would be a very hard matter for an ordinary practitioner to add anything to the splendid talk that Dr. Pope has given us. I wish to simply relate a case that I saw with the doctor a year or two ago.

I was called to see a woman who had the most pronounced hysterical symptoms I have ever seen. Her muscles would contract in such violent tonic spasms that I was apprehensive that she would break her bones. After exhausting every measure that I knew anything about, or that Dr. Weidner knew anything about, and being unable to afford any relief whatever, I called in Dr. Pope. I had been unable to analyze the cause of her trouble, and it remained for Dr. Pope to get at the bottom of it and cure that woman in a very

short time, and I am going to try to tell you how he proceeded to do it.

It had happened that this woman had visited a summer resort some months previous to this attack, and while she was at dinner one day, a woman dropped dead at the same table. She denied that this incident had anything whatever to do with her trouble. Her denial had been sufficient for me, especially as she gave a history of certain nervous symptoms previous to this incident, although the pronounced symptoms had not become manifest until some five or six weeks after the occurrence. When I called in Dr. Pope, he immediately began to analyze the mental workings of this woman. By the time he had completed this analysis, he had obtained from this woman a minute description of the woman who had fallen dead at her table; the minutiae of her dress, the peculiarities of her physique, the color of her eyes, the color of her waist, the material it was made of, the kind of shoes and stockings she had on, the peculiar circumstances surrounding the meal.

He took a long list of jumbled-up words, and instructed the woman that, when he read a word, she was to answer with the first word that came into her mind, and he timed her answers with a stop-watch. When he said, "Day", she instantly answered, "Night"; when he said, "Warm," she replied, "Cold". When he came to "Eyes," she hesitated a moment and said "Blue". He went on this way through a long series of words, and when he had finished he had a complete picture of the incident just as it was pictured in this woman's mind.

It seems wonderful to me how these things had been pushed into the subconscious mind and yet how quickly they were brought out and made to show a picture of the cause of that woman's hysteria. What he did to relieve her, I do not know, but he certainly made a most beautiful analysis and splendid results followed.

Hugh N. Leavell: I think we have all been very much interested in the subject that Dr. Pope has brought before us to-night. If we as doctors would pay a little more attention to the psychology of our patients we would have much less trouble with Christian "Scientists," and all sorts of isms that are constantly cropping out. There can be no question that all these things originate from some concept of a diseased mind, and if we as physicians can, by proper instruction, guide our patients away from such concepts, we will do a great deal towards building them up. The administration of drugs is not the whole province of the medical profession. We have a certain amount of personality and there are things that we should impress upon the minds of our patients, which we cannot do by prescribing drugs. If we will study our patients a little more and throw into the practice of medicine a little psychology, I think we will make much better doctors.

Bernard J. O'Connor: I have read a great deal about Freud's theory by various authorities, and I must confess that the more I read the more puzzled I became. I tried to follow this reasoning, because I had several patients on hand in whom I thought possibly the application of his theory would do some good. It seems to be a rather difficult matter to elicit a repressed concept and I fear that I made the mistake of trying to bring out the repressed thought in a too direct fashion, endeavoring to elicit a history of some painful impression that the patient had received, which had brought about a conflict, resulting in the idea being repressed into the unconscious, where the whole pathology of the condition lies. I did not attempt psychic analysis by means of a series of words read to the patient. That is a method, however, in which I presume one could acquire a certain degree of skill after considerable practice. I think this method has also been employed as a sort of "third degree" test in certain criminal cases, as an aid in the detection of crime.

To my mind, in major psychoses, the main point is to determine whether we are dealing with a true psychosis or insanity. To do this, of course, requires a broad experience.

Another point which interests me is the possibility of detecting ideas which have been repressed into the unconscious through the medium of dreams, as mentioned by the essayists. This opens up a very large field. I feel that we are all indebted to the doctor and I hope that we will soon be supplied with a text-book which will enable us to review the whole subject in such a manner as to give us a definite working knowledge of it.

I would like for Dr. Pope to tell us in closing whether, in his opinion, parents should endeavor to not inculcate in children the idea of "Don't do this" and "Don't do that"; in other words, such ideas as will tend to the production of the "psychic dams and barriers" he spoke of. My own opinion is that when a child is told not to do a thing, he or she, should be told the reason why they should not do it. In many instances, parents will reprove or punish their children without giving them any reason for it, and I do not think this is a good plan.

There is just one other point upon which I would like for Dr. Pope to give us some information. Many authorities who have written on this subject seem to think that Freud's theory is based almost entirely upon sexual abnormalities; that it is mainly in connection with sexual subjects that "conflict" and "repression" takes place. In the paper and discussion here to-night, not a word has been said along this line, and I hope that Dr. Pope will mention it in closing.

Curran Pope, (Closing): I very much appreciate the kind remarks that have been made, and I will try to answer in detail some of the ques-

tions asked, commencing with my good friend, Dr. Moren.

Evidently Dr. Moren did not grasp the statement I made, and which I said that I accepted; that underlying all these cases of neurosis, there is a certain something—shall we call it heredity or shall we call it hereditary predisposition. Call it what you will, it will make of one individual a conversion hysteric and of another a psychic substitution individual. What this is, Freud nor any one else has as yet been able to offer an explanation, except that Freud throws out the idea that in 50 percent of these cases there is a specific heredity. That is all he says—nothing more.

Now, in regard to three or four individuals in the same family having hysteria. I am sorry that Dr. Moren is not here, because I want to take flat-footed, unqualified issue with every word he said. Let us take, for example, an individual family in which three or four cases of hysteria have developed. You will find that these children have all been born of the same parents; they have lived with the same parents; they have all experienced the same petty troubles and conflicts in the household; they have had to stand the cholericness of Pa and the pettishness of Ma; in other words, they have all four lived in the same environment, acting and counteracting upon one another battle-dore and shuttle-cock, until sometimes the wonder is, not that we find three or four cases of hysteria in the same family, but that anybody escapes, including the cook. In an extended career I have seen families in which it was, to me, a marvel that any of them escaped hysteria. I know of one in which, of five children, two have had anxiety hysteria, another has had hysteria; the fourth has had a psychasthenic psychosis, while the fifth—the oldest boy—is absolutely normal. I take it that this boy laid the foundation for his life prior to his eighth year, which was the turning point in that family. He had the advantage of his parents being in good health, and in better financial circumstances, and his early environment contained none of the elements which go to form the foundation for hysterical symptoms, but the others who came after him, all experienced the same environment and the same influences, and the little imitative monkeys (of that is what all children are) absorbed every bit of that environment to the fullest extent, and the wonder is not that these four children developed hysterical symptoms, but that the boy remained absolutely untarnished.

I wish to take very great exception to another statement made by Dr. Moren. We cannot inherit emotions; they are of our individual manufacture. We may inherit certain traits. I may inherit from my father an ability to speak, or rather a connative hereditary trend in that direction, but my father did not put emotions into me. I make and manufacture my own emotions, and these emotions are based upon every complex that I have gathered during my life-time. Dr.

Moren has failed to grasp clearly the psychology of the condition. That is the reason why I am sorry for any man to be absent when I make such a statement. He is all wrong in his idea. You are your own personality. I have stated that a number of times here to-night. Your personality is made up of the sum of your experiences, sensations and emotions. Therefore, you cannot inherit them. You may inherit a certain connative tendency towards the expression of emotions, but you cannot inherit emotions; they are your own.

To my good friend, Dr. Harris, I extend many, many thanks for his eulogies, both personal and professional. I am happy to say that, in the case he referred to the association test, gave much valuable information as to instantly put one on the main track instead of sidetracking him as is sometimes the case. It enabled one to penetrate pretty promptly into the unconscious of that patient. There was no question but that the experience mentioned by Dr. Harris was the essential cause of the attacks, but it was not all; it was connected, link by link, with a number of experiences, one of which dated as far back as ten or eleven years, and which came out in the course of the analysis.

A Voice: Why was that experience such a skeleton that she should wish to hide it?

Curran Pope: I cannot tell you that without revealing a certain incident in the family history that I would rather not tell in public, but the reason it affected her so strongly was because she unconsciously so intimately associated it with her own story that the incident carried with it an emotional value far beyond what it would ordinarily have been. That is what I wanted to call particular attention to. Sometimes we wonder why it is that a patient will develop an hysterical paralysis of the left arm, for instance. Let us say that a mother is nursing her child. She is worn out; the strain has been very great. She is, we will say, on the verge of hysteria. She drops into the trance-like state described by Janet and Freud. She has her left arm hanging over the chair, and, in common parlance, it "goes to sleep." As she comes out of the trance she, as Janet says, forgets the left arm; in other words, she has an hysterical paralysis of the left arm. It was not the trance that caused it; it was the idea she had in her mind. The paralysis is merely the surrogate creation—the outside symptom of what was in her mind while she was in the trance-like state.

I am glad that Dr. Leavell brought up the question of Christian Science, which is neither Christian nor scientific in any sense of the word (applause), and it is fast going to pieces in the absence of the master mind of that keen old business woman and hysteric, Mrs. Eddy, who started out with an hysterical monoplegia and ran the whole gamut, and who robbed old Phineas C. Quigley, in an audacious and outlandish manner

of what is now called Christian Science, which is to-day filling the world with hysterics, for Christian Science says, "Throw out the conflict, repress the symptoms; you haven't got them; forget them," thus doing the very thing that, as all psychologists know, works the greatest amount of harm. "Blessed be the meek in spirit."

I will answer Dr. O'Connor's inquiry in this way. The doctor could not translate for me a sentence in Sanskrit, nor in ancient Greek or Egyptian, because he knows none of those languages. By the same token, he might just as well have asked his patient to write or talk to him in Sanskrit. There is an old saying that "What you don't know don't trouble you." That is not true now; it is what you don't know that does trouble you. An important point in hysteria and other psychoses is that the patient does not know anything about it, and when you question them about it they deny it. You have to "whip the devil around a stump" and make them bring it out. You do not bring it out as you would a catalytic ferment; you take a part in the process but you are not all of it; you are merely the master mind, the guiding hand, and the patient does the rest. The patient oftentimes does it unconsciously; it comes out fragment by fragment, and it requires the widest reading, the broadest comprehension of humanity in general, the most minute knowledge of folk-lore and mythology, to enable one to read, in symbolism and in allegory, many things that would mean nothing to another. It is astonishing how the mind of the modern individual, who knows nothing of Greek or mythology, will yet work along the line of mythology and folk-lore, often going back to the cave-dwelling days of our ancestors. The development of a boy, his growth from a child to a man, represents, in its various stages, the growth of the human race. We see him at different times, with his knife, with his bow and arrow, with his sling and stone; he goes through the various ages through which the human race has gone, and oftentimes he uses symbolism to express various things of which he has no literal knowledge of their meaning. Therefore, what these patients tell us we must be able to interpret, just as we would translate a sentence in French or in German into English.

The association test has been widely employed. I use it constantly as a means of measuring the amount of knowledge in children, and in mental tests of individuals who are suing for damages, etc. Dr. Haymond will recall a very interesting case that we worked out together recently in a young man from Missouri, in whom we were able, by various tests, to establish the existence of mental lesions which absolutely indicated certain defects in intelligence and memory. The association test was used during the trials of Meyer, Haymond and Pettibone, in Iowa, thousands of words being used in the tests.

Dreams are very valuable as a means of reach-

ing the repressed ideas in these cases, but dreams must be read in allegory and in symbolism; the idea never comes out directly. To go back to my previous illustration, the young man does not dream that he wishes his father were dead, but he will relate, for instance, a dream something like this: "I dreamed last night that I saw Mr. X (who, we will say, bears a strong physical resemblance to the father) and Mr. Y, (who exhibits mental traits which the patient thinks resembles those of his father) being carried along in two caskets, the caskets being escorted by a band, which was playing some lively air, totally inappropriate to a funeral." Now, when one comes to analyze that dream, he is apt to find that in the two corpses the patient has combined the mental characteristics and physical appearance of his father, and the dream had its origin in the thought which has been entertained by the patient, of what a good time he would have if his father were dead. This illustration will serve in a crude way, to give you an idea how a dream may, in a roundabout way, express the thought which the patient has entertained and repressed into the unconscious.

A certain amount of intelligence on the part of the patient is absolutely necessary to do this work. We must select our patients. I recently received a very hard jolt and fell down sadly in a case in which I attempted something that I should have known better than to attempt. I attempted to make a silk purse out of a sow's ear, and nobody ever did that nor ever will. I endeavored to work with a patient whose mentality was not up to the standard required, and I failed in a dismal sort of way. The individual must have a certain degree of intelligence, and must be with you in the work. They must give up, to a certain extent, their personality, and tell you their thoughts and ideas as they come into their mind, without attempting to change them, without attempting to criticize them, without attempting to reason about them; in other words, the patient must be as passive as possible sit in the chair, lie back, and talk. One of the best subjects I ever had was a little girl, seven years of age, whom I relieved of a phobia of three and one-half year's duration, which had practically driven the child to desperation. I have never in my life seen, in a child, such intelligence, such beautiful language and symbolism, as this child displayed. There was a child of rare intelligence and rare comprehension, in whom my efforts were rewarded with absolute success. On the other hand, the woman, 21 or 22 years of age, was a tank failure, and the fault was mine—not her's. I tried the impossible, and gentlemen, you know that when an irresistible force meets an immovable object, there is bound to be a smashup somewhere, and that is what I hit.

Dr. O'Connor has asked about the sexual aspect of Freud's theory. Freud's work is all based upon sexuality of the individual, but I purposely

avoided that phase of it in bringing this subject before you to-night, and I will tell you why. The great trouble in bringing that phase up at the start is that the average man and woman cannot separate sexuality and sensuality; the moment you mention sexuality they imagine that it has to do with the sexual act. Some of the most sublime qualities exhibited by human beings are born of sexuality. The love of an animal for her young is an evidence of sublimated sexuality. The devoted love of a mother for her sick child possesses no trace of sensuality—but it is sexuality. There is no question in the world but that Freud is right; that even in its earliest infancy, from 3-12 years up, the child begins to take up sexual subjects, and to become cognizant of sexual matters. In the case of the child I mentioned, 7 years old, her trouble originated in sexual trauma—mental, not physical. There is no question that the sudden awakening of a child to a knowledge of its sex is often the starting point, and that oftentimes the complex producing the hysteria is connected with other ideas, deeper down in the mind, that have to do with sexuality, and when you come to analyze why this is so, you will most likely find that the psychic dams and barriers were nearly all associated with sexuality, or with those things that are closely allied to sexuality.

Now, get this firmly in your mind; don't forget it; take it home with you and keep it so that none of you will be mistaken. Nearly every one of the individuals afflicted with these psychoses, especially women, are sexually anesthetic. If you ask them about it, they will deny it. They will deny it because those psychic dams and barriers which have been erected have been repressed into the unconscious, and they know nothing about them. If you broach the subject to them, they are insulted. They have forgotten about their sexuality; it has been repressed into the unconscious and is now only active in a pathological sense. For one to broach such a subject to them would stamp him, in their eyes, as being an ignoramus of purest ray serene.

There is nothing in the world that will tax your knowledge, patience, tact and ingenuity, nor that will bring out the broad, humanizing side of your nature, as much as will this work. Four years study of this work will come nearer to making you truthful to yourself than almost anything else in the study of medicine. It has a broadening, humanizing effect upon the worker; it makes him know his patients as he has never known them before; it makes them better and it makes him a better man.

As to the mode of analysis, I do not think there is any regular method of procedure. We have no way of knowing what our patients can and cannot do. Usually we start with the association test and that will show us whether or not it is worth while to go further with that particular patient. Dr. Van Zandt will recall a case that

I examined for him, in which, after making the association test, I advised that it be given up, as the patient was absolutely hopeless and beyond redemption so far as psychological methods were concerned. One advantage of the association test is to give us an insight into the type of mentality of the patient, but sometimes it tells us nothing, in which event it is dropped. If the patient is a pretty good dreamer, I prefer to work through dreams. I am much more familiar with dream psychology—with mythology, folk-lore and symbolism, which enables one to interpret dreams—than with anything else, and for that reason naturally I prefer it. Take a dream of the type I cited. We begin with Mr. X, and let the patient tell all he or she knows about Mr. X.; that he lived at such-and-such a place, and by-and-by, that he looked a good deal like the father, physically. There is the gist of it, and we must know it when we come to it. The patient may be going straight along, and you must nail each fact as it comes out; if you miss it, it is gone. It is very fatiguing work and requires an immense amount of concentration. Then we analyze Mr. Y., and we find that his mental characteristics resembled those of the father, and when we combine the physical appearance of Mr. X with the mental characteristics of Mr. Y., we have an individual that would closely resemble the father in every respect. There you have it. Then we take up the fact that the hand was playing a lively air, for instance, "A Hot Time in the Old Town To-Night." The patient will begin—"I remember the first time I heard that song," and so on with a string of nothings, but after a while he, or she, will say—"Every time I hear that song it makes me feel fine." That is the real thing—old man dead, joyful song, feeling fine. It is not something that you can find out easily; it is going to require ingenuity, knowledge and tact to bring out these things. That is why I said it is a specialty within a specialty, and unless a man is specially equipped for the work, unless he makes a constant every-day study of it, he is going to find—as Dr. O'Connor stated, and as I found—that it is one of the deepest, most profound and most confusing subjects that has ever been presented to the medical profession, and I believe that it is destined to revolutionize the entire psychology of the world as it is to-day. In an article recently published in the Journal of Educational Psychology, it was stated that the man who has to deal in a psychological way with human beings, who did not at least understand the fundamental points of Freud's psychology, should not be deemed capable of dealing with a sick individual.

I have personally, to-night, tried to steer away from the technical terms used by Freud, which have a great deal of meaning to those who understand them. It is a subject in which I am profoundly interested, and by means of which I have obtained some most gratifying results. I

think the time is coming when the family physician must know the origin of these conditions, and how to have them treated, and just as when he diagnosed abdominal lesions he calls in a surgeon to operate, so he should be able to recognize these conditions in order that he may more intelligently understand his patients and, as I stated, understand his own limitations.

PRURITIS FROM A MEDICAL AND SURGICAL STANDPOINT.

By M. L. RAVITCH, Louisville.

Pruritis is a functional disease of the skin characterized solely by causation of itching with or unaccompanied by the organic changes of the skin. Itching is a sensation which is not closely definable in words, and which, produced by an irritation of the papilla of the skin, but differing from the sensation of burning, tickling or pain, causes an irresistible inclination to scratch. It exists in all degrees of severity and frequently proves a source of great distress. Some cases are very severe. The day and sleepless nights are passed with intense suffering until the patient is thoroughly exhausted and often unable to move around. It occurs in all stages of life. The itching may be constant or intermittent, and being invariably worse at night. It may be local or general but seldom involves large portions of the surface at once.

Pruritis without any eruption is not strictly a skin disease. In this short paper we will not dwell strictly on the itching due to skin diseases but to some other constitutional causes. Should I attempt to enumerate all the causes of pruritis I would have to write a voluminous essay, and not wishing to punish you, I will just make a few passing remarks.

It is right to mention that often no satisfactory explanation can be obtained, as the cause which produced it may have disappeared, while the itching continues, owing to entangled nerves or filaments having, so to speak, contracted a bad habit. Occasionally the disease is mental rather than physical.

The diagnosis of pruritis is easy: in fact, the patient furnishes us with it; but the diagnosis of the cause which is more important, is often obscure. I will attempt to give a few diseases that are likely to be connected with pruritis. Often have we seen intense pruritis in genito-urinary diseases. I recall a case of intense itching in the vagina, which the general practitioner passed off as insignificant nervous trouble. A vaginal examination was never made by him. When the patient was seen by me, I advised her to consult a gynecologist; the latter discovered uterine

polypi. After the polypi were removed the pruritis entirely disappeared.

Pruritis of the vulva may be at times, purely of nervous origin, but it is always well to look into the history of the case. Most of the cases of true pruritis of the vagina are in women who are passing through and have passed through climacteric period. Some cases of pruritis may start from a slight abrasion due to mechanical injury. This is also true of pruritis ani.

Pruritis vulvae and scroti, if not corrected at once, may, particularly in the young, lead to pernicious practices, such as masturbation. It starts with a pleasurable relief often obtained from scratching. Many cases of masturbation have their origin in pruritis.

In another case, a male patient complained of intense itching about the genitals. A cancerous prostate was found to be the cause of pruritis. I recollect a case of intense itching over the abdominal area, at times accompanied by urticaria. The patient was a man about 50 years of age. The case looked suspicious. Pain over the abdominal region began to appear quite often. Cancer of the gut was the real cause.

A young man came to my office complaining of an intense itching over the body above the umbilicus. His skin was yellowish and very dry. Some places looked like scleroderma. Urine did not reveal anything abnormal. Calculi in the gall bladder was the cause. When the calculi were removed by an operation, pruritis disappeared, and the skin became normal. The dry patches (scleroderma) have also disappeared. I could cite many cases of the same nature, but that would take up too much of your time.

It is needless to call your attention to pruritis due to external irritants, constipation and ptomaine poisoning. You are all acquainted with such cases. Undoubtedly a pruritis due to these conditions is produced by a toxin.

Pruritis of the urethra is in the majority of cases, due to gonorrhea and to the excretions produced in the urethra by the gonotoxin. Pharyngitis may produce a severe pruritis accompanied by erythematous patches on the skin around the neck and shoulders. This latter manifestation is due to a toxic condition produced by the bacilli of influenza.

Any otologist will tell you that otitis media in children as well as in adults, is accompanied by pruritis in the ear. You have all seen the picture of an infant suffering from otitis media try to scratch the back of the ear when there is not a sign of an eruption.

Mastoiditis is another cause of pruritis; so is conjunctivitis.

Serum injections sometimes produce a severe pruritis, at times accompanied by vio-

lent urticaria. Pruritus of this kind is very persistent and is due to anaphylaxis. Ingestion of food proteins such as tomatoes, berries, crabs and the like, is liable to cause intense pruritus with or without urticaria. This is, to my mind, a manifestation of the individual against a particular protein. Rose and Hay fever may often cause pruritus. This condition, as in the ingestion of food proteins, is also due to anaphylaxis. Hirshberg was right when he made the statement that "the recognition of the offending protein, whether its invasion is per os or by injection, whether it is via the olfactory route or by way of circulation direct, is of such clinical importance that internists dare not longer ignore the application of our knowledge of anaphylaxis." In burns that looked for a time very favorable, and then, all at once prove fatal, pruritus usually starts when a burn begins to take on a bad turn. This is also due to anaphylaxis. Anaphylaxis is induced by absorption of substances from the burned tissues which act like an antigen; after a certain time the body becomes sensitized and any further absorption entails fatal anaphylaxis phenomena. Hence the importance of removing all the burned tissue in the beginning.

Gastric hyperacidity produces pruritus. Sometimes acidity is liable to do the same.

Morphinism is another cause of pruritus. I remember a patient came to my office for an intense itching all over the body. At times erythematous nodules were seen on the upper and lower extremities. The case was rather puzzling. As the patient was a prominent lady, very intelligent and ambitious, I did not suspect anything at the beginning. I took the case to be obscure in its etiology. Later I noticed pinkhead punctata over a few nodules and my suspicion was aroused at once. I knew I had to deal with a clever morphine subject. Sound advice and talks did not help the patient; a year later she committed suicide.

Pruritus of the external genital organs in a woman is of a sympathetic or of local origin. It is produced by an irritation of the uterus, bladder, rectum or vagina; or by acid discharge, upthae, or other causes of local irritation of the vagina and vulva.

In the early part of pregnancy, pruritus is very prominent; sometimes it has been the cause of miscarriage. Gynecologists will tell you that cirrhosis of the uterus often causes pruritus of the vulva. So does glycosuria. Varicose veins of the rectum and the vagina give rise to pruritus of the vulva. Varicose veins of the labia cause pruritus of the vagina, pubes and rectum. Pruritus is also occasioned by local causes: about the rectum, by ascariides, piles and fissures; about the upper lip, by nasal discharges; about the ear,

by disease of the middle ear, which later terminates in eczema. Intestinal parasites, diabetes, cystitis, leucorrhea and gonorrhea, and Bright's disease are all well known factors in the causation of pruritus.

Pruritus due to hepatic disorders is accompanied and often unaccompanied by urticaria, jaundice and some kind of skin eruption. According to Murcheson, and other authorities, the exact manner in which the disorders of the liver affected the skin, has never been demonstrated, but it could be readily understood that a toxemia from an imperfect liver action might irritate the nerves and cells of the skin, and in conjunction with external causes or independently, could give rise to pruritic sensations and alterations of structure, as it could cause changes in the joints in gout and deforming arthritis.

Pruritus due to renal derangements is a more satisfactory field for observation and research, than due to liver derangements, because of the ease with which urinary excretions could be secured and analyzed; their relations noted and cause obtained. The urine is the most perfect exponent of the catabolism and anabolism of the system.

Pruritus around the anus is not only distressing but also embarrassing. It especially occurs among people who frequently appear in public. The desire to scratch these parts when involved often becomes irresistible. Public speakers, lawyers, clergymen, singers, and even judges on the bench, if affected, may be driven, in the midst of their duties, to retire and scratch or rub the parts.

Pruritus is occasionally of special type: It may be specially localized, and the condition known as *formication*. This, however, belongs to *paraesthesia* kind.

Pruritus is the result of various atrophic changes which take place in the senile skin. It is due to wasting and ultimate disappearance of the papillae. The same condition is found in extensive burns.

Pruritus biennialis, or *aestatis*, is a neurosis and according to Diakonoff, consist primarily in abnormal irritation of the cutaneous sensory nerves, which, in the reflex way through sympathetic ganglia and vaso-motor nerves, brings about a localized paralytic dilatation of the cutaneous capillaries with a subsequent disturbance in the nutrition of the sensory nerves. As I said before, the disease is often mental rather than physical. It is usually found, then, in cases associated with hypochondriasis, and such cases are rebellious to medical measures.

So you can see that pruritus, like headache, is often a very important symptom and is the result of many diseases.

DISCUSSION.

G. S. Hanes: I have enjoyed Dr. Ravitch's paper very much. I hardly think that I am the proper one to open the discussion, as I am interested in such a small part of the anatomy he has included. However, I do not believe that itching in any part of the body is as annoying as it is in the rectum.

We have all heard of, and have all had more or less experience with, what is known as pruritus ani. The few remarks I am going to make will not apply at all to the itching that comes from eating strawberries, or hot tamales, or to that due to excoriation caused by secretions, etc., about the rectum. The pruritus that I want to call your attention to is the pruritus that is purely a local condition, and which heretofore has been thoroughly misunderstood. I was thinking, when Dr. Ravitch spoke of the removal of gall-bladder calculi relieving the itching in one case he mentioned and when he said that an atrophied uterus might cause itching about the vulva, that we never have itching in any part of the body for which there is not some definite cause somewhere. Of course, we see cases in which there is general itching, distributed over the body, but where we have definite, localized itching, it is due to disease either at the point of itching or it is reflected to this point. The reason why we have not been successful in cases of pruritus ani of the type that makes a man go frantic, is because our operations and treatment have been directed to the skin or outside, while the disease is on the inside. There is a quack, whose name I will not mention, but who ought to have credit for saying that these cases begin as an infection of the mucous membrane in the lower part of the rectum. The patient does not feel it and does not know it, because there are scarcely any nerves in the mucous membrane of the rectum, but when the condition extends into the anal canal it comes in contact with the most sensitive nerve elements in the body, and they experience a sensation of itching, and until the condition in the mucous membrane of the rectum is relieved we can make all the applications on the outside that we want to and the patient will not get well. Dr. Ball and other surgeons have advised certain operations to be done upon the skin, cutting all the nerves around the anus, etc. When I was in London, I saw a number of patients operated upon by Dr. Mummery after Ball's method, and not a single one of them was entirely well. To cure this disease we have got to go to the inside. It begins there and a well-established case will never be cured until we go on the inside and remove the exciting cause. Then, and not until then, will the patient be cured.

W. F. Boggess: To the general practitioner this is an exceedingly important and practical subject. I know of no more distressing cases

with which we have to deal than patients suffering with pruritis. There is no sensation so hard to control as that of itching.

I was glad to hear Dr. Hanes say what he did about pruritus ani. I have seen the nerves cut and great areas of skin taken off without any relief, and I advised a patient not long ago not to allow the skin of his rectum and buttocks to be taken off because I did not believe it would do him any good; that the trouble was probably higher up. I have advised such cases to consult a proctologist and have the rectum looked into, feeling sure that more serious trouble would be found, and that not until it was removed would they get relief.

Dr. Ravitch spoke of "winter" pruritus, as it is called, which we so frequently see and which is very distressing, not alone in neurotics and hypochondriacs, but also in my experience, in hyperchlorhydriacs. It is a very distressing symptom and, until the digestion is looked after, the patient will not get any relief.

Dr. Ravitch spoke of anaphylaxis. That is a mighty fine term; it sounds good and all that, but I do not think there is any subject so little understood as that of anaphylaxis. I think it is a term that is frequently used to hide our ignorance, or to assign as a possible cause of some condition a term that nobody knows much about.

While I believe that pruritus ani, pruritus vulvae and pruritus vaginae are practically always dependent upon local conditions, there are some cases of pruritus generally throughout the whole body, which are dependent upon constitutional conditions and not local inflammatory conditions. In these cases of general pruritus, I think the condition is most frequently an auto-intoxication, and that by looking after the digestion and building up the general condition of the patient, the pruritus will be relieved.

I believe, as Dr. Ravitch has stated, that where pruritus about the rectum or vulva has existed for years, the "itching habit" has become established, and removal of the cause does not always stop the itching. I have seen that demonstrated in cases operated upon for rectal disease; the itching persisted after the exciting cause was removed.

Bernard Asman: The pathology of pruritus of the anal region has undoubtedly been imperfectly understood for many years. The question whether pruritus of the anal region is a symptom or a disease has been discussed time and again. I am glad to note that Dr. Ravitch said, if I understood him correctly, that pruritus is a disease of the skin characterized by itching, or words to that effect. I believe that pruritus is essentially a disease. I know that a good many authorities have stated positively that pruritus of the anal region is a symptom and not a disease. I think, upon a little reflection, we can arrive at a proper definition of this term. Pruritus is not itching alone. If we are to use the term, as it

is ordinarily used, to designate a certain condition found about the anus, it means more than simple itching. It is true that itching is the most pronounced symptom, but it is not all of it. If that were the case, then after relieving the condition of which the pruritus was a symptom, the itching would be relieved, but we often find that it persists. The reason for this is this: While pruritus may have its origin as the result of some disease, such as hemorrhoids, blind internal fistula, or ulceration anywhere inside the rectum, producing a discharge which flows out upon the surface of the skin surrounding the anus, resulting in constant irritation of the skin which goes on to inflammation and ulceration, still it often does not clear up when the primary cause of the trouble has been removed. It follows then, that in such cases pruritus is a disease which requires for its cure, not only the removal of the cause, but attention to the diseased skin as well. It is undoubtedly true that the quack referred to by Dr. Hanes, has given us some very good ideas in regard to the causation of pruritus. I believe, though, that they are mostly along the same line as the ideas given us by a good many authors in recent years.

We find that, in many instances, this condition is caused by a submucous fistula, frequently so small as to be easily overlooked, but upon inspection of the anus we will find perhaps a drop, or two or three drops, of pus. If this tract is found early in the course of the disease and eradicated, the pruritus will be relieved, but if it has existed for a considerable length of time, attention to the skin itself is necessary. The skin condition can sometimes be relieved by the application of local agents, if the skin is not too much thickened. Very often relief will follow the application of monochloroacetic acid, dilute, and, after desquamation is complete, the application of compound tincture of benzoin will relieve the condition entirely. If the skin is very much thickened and the terminal nerves very much diseased, it becomes necessary to cut these nerves, or to in some way get rid of them. Instead of peeling off the skin all around the anus, as is advised by some men, the same result can be obtained by cutting narrow strips of skin from around the anus, outward as far as the disease extends, say 1-8 or 1-4 of an inch in width, leaving strips from 1-2 inch to 1 inch wide between the denuded area. After this has been done, the diseased nerves going to the remaining strips of skin should be severed by passing the knife beneath them, after which the severed edges may be brought together by suture, or the denuded areas may be left to heal by granulation, as preferred.

It has been stated by many authorities that pruritus of the anal region is practically incurable. I believe that is a mistake; that these cases are curable. First seek out the cause, whether it be a submucous fistula, or a number of tracts in the submucous area leading down into

the anal canal, or what-not—seek the cause and remove it, and then attend to the diseased condition of the skin.

As to pruritus being a mental condition, that may be true of pruritus of other regions of the body, but I do not believe it is ever true of pruritus ani. In my opinion, distinct pathology exists in each and every case, and in order to cure pruritus ani, this pathology must be sought out and eradicated, and then the diseased condition of the skin must be attended to, either by means of local applications, or surgical procedure if necessary. If this is done, I believe that practically all of these cases can be perfectly and permanently relieved.

W. A. Jenkins: There are just two points that I want to make. The first is that pruritus is essentially and always a symptom; never a disease—begging Dr. Ravitch's pardon. I do not think he meant that we should interpret that statement in a very straight-laced way. It seems to me that the experience of the essayist, as well as the experiences detailed by the specialists who have spoken, all tend to prove that pruritus is a symptom, and I believe that is their belief in spite of Dr. Asman's statement that it is a disease and not a symptom. Even in the cases Dr. Ravitch mentioned, and in all other cases where pruritus persists following operations, where the pathological condition has existed a sufficient length of time to give rise to a secondary disease focus, we must still regard this as a symptom and not as a disease. We might just as well say that the pain following a neuritis, remaining for a number of hours and temporarily clearing up, is a disease. Pruritus is no more to be regarded as a disease than jaundice. Nobody now regards jaundice as a disease, but simply as a manifestation that leads us to search more deeply for the true cause of the trouble. The same thing might be said of albuminuria. It is not a disease; there is always a pathological or physiological condition backing it up, and that is the disease condition; the other is merely a symptom.

The other point I wish to make is with respect to diagnosis. We should always make an appropriate, thorough, painstaking search, intelligently interrogating every organ of the body and every physiological function of the body in so far as we are able to do so with the means at our command. We are perhaps too prone to alight upon the most prominent symptom, or group of symptoms, and be satisfied with that, whereas if we would approach it from another standpoint, and make careful interrogation of the various organs and functions of the body, we would be able to arrive at a proper solution of many of these problems.

E. S. Allen: I agree with the point brought out by Dr. Hanes; that pruritus, from an etiological standpoint, is the result of a toxic condition affecting the nervous system. This toxin may be

of bacterial or chemical origin. We know that certain toxins manifest an affinity for, or a selective action upon, certain types of cells. I think therefore, we can readily conceive that certain toxins may have an affinity for special nerve areas.

I have had the pleasure of examining quite a number of specimens submitted to the laboratory by Dr. Ravitch, and almost invariably the specimens he sends in are loaded either with indican or oxylates, one or both, the oxalic acid condition being especially predominant, and is evidence of the great wear and tear that is going on in certain nerve areas. The presence of indican indicates that putrefaction is going on in the anal canal.

There is no doubt that, in the great majority of cases, pruritus ani is the result of pyogenic infection in the anal canal, the bacteria themselves, by their presence, irritating the nerve terminals, or producing irritation by their toxins, resulting in nutritional interference with the nerve terminals and causing a disturbance of function which is manifested by itching. Very frequently we have a neuro-pruritic condition, with an hyperemia, and after this condition has existed for a considerable length of time, certainly changes must take place around the nerve terminals and even after the infecting focus has been dissected out, the symptom of itching continues to manifest itself because of the repair of the tissue that must take place. When there is no longer any condition there to irritate the nerve trunks or terminals, this new material is thrown out, organization takes place, fibrin and fibroblasts develop and contract, producing such changes around the nerve terminals as to interfere with their function, and instead of the physiological function, we have a pathological function in the way of itching.

I can testify, from personal experience, that toxic pruritus is very frequently accompanied by urticaria. It is absolutely poisonous for me to eat one oyster, or drink a small glass of beer. I have tried it on too many occasions to say that it is a coincidence. In each instance I would develop a most intense general itching, all over the body, usually accompanied by urticaria.

In doing laboratory work for Dr. Ravitch, I have been very much impressed by the great number of these cases presenting indicannuria and oxyluria, and I have come to believe that there must be some association between the presence of indican and oxylates in the urine and the manifestation of some skin lesion.

M. L. Ravitch, (Closing): I have very little to say in closing. Dr. Hanes takes a little bit of the subject and goes a long way with it. I did not say that an operation never does any good. What I did say is that we must find the cause. If it is due to hemorrhoids, they must be removed; if it is due to fissure, the condition ought to be corrected, but in many obscure cases

we are unable to find the cause. I remember several cases that were operated upon by a certain proctologist, and the skin removed about the anus, after which they landed back in my office and in sheer desperation I treated them with X-rays and they got well. Again, other cases in which I used the X-rays did not get well. The proctologists are prone to be a little too enthusiastic about operation for the cure of this condition.

As to anaphylaxis, of course none of us knows just what this process is except that the patient manifests an idiosyncrasy to certain drugs or foods. For instance, I had a patient who first had urticaria, and after this had cleared up she developed an erythema. On one occasion, when she had a very bad cold, she called in a physician who put her on five grains of salol and five grains of quinin. Such a violent urticaria developed that I thought that woman would go insane, and she was very sick for several days. Some months later it became necessary to give her a tonic, and I put her on tincture of cinchona compound, to see whether it would have the same effect on her as the quinin. After she had taken one dose her mother called em up and said that her daughter was in agony; she could not swallow, was delirious, had a horrible headache, and was broken out all over her body.

I have patients who cannot drink milk, because it acts upon them like poison.

I do not agree with Dr. Asman in regard to the use of monochloroacetic acid, applied to the rectum, or to any mucous membrane, because it will do more harm than good. In these cases the skin is either hypertrophied or atrophied and you simply add to the trouble.

Bernard Asman: I said, or intended to say that the acid should be applied very lightly to the skin around the anus, and not in the rectum.

M. L. Ravitch: I wish to repeat that, in the beginning, pruritus is a disease and, moreover, a disease of the skin. I agree with Dr. Allen that many cases of pruritus are of toxic origin. I have had a good deal of experience with these conditions, and I believe that skin lesions are closely associated with uric acid and indicannuria.

SCARLET FEVER.

By WM. SANDERS, Louisville.

Scarlet fever is an acute infectious, contagious disease, characterized by high fever, rapid pulse, a punctiform scarlet rash and a somewhat marked tendency to nephritis.

The etiology of scarlet fever is not definitely known. That it is caused by a microorganism does not admit of doubt but the specific germ has not yet been isolated. Mallory found, in the epidermis and skin after death, spherical, oval and elongated protozoan bodies which he regards as the cause of the

disease. W. J. Class, of Chicago, reports the discovery in the scales of the epidermis and in the throats of scarlatinal patients a diplococcus resembling a large gonococcus which presents characteristic features in both its morphology and its mode of growth, but it has not been proven that either are the cause.

In 42 fatal cases of scarlatina Baginsky and Sommerfeld found a streptococcus in all the organs and also in the blood and bone marrow. From this and other reports it is safe to conclude that it is present in all cases. Whatever may be the primary cause most observers are certain that streptococci are the direct cause of the secondary symptoms. "They are so constantly present and so active in the production of the more serious symptoms and complications that they must be regarded as important factors in the production of the clinical picture which we know as scarlet fever. The disease as it commonly appears is a mixed infection, the more malignant and fatal symptoms being due not so much to the primary as the secondary infection. Staphylococci and diphtheria bacilli are sometimes found in conjunction with streptococci."

Successful inoculation of the disease has been performed with the blood serum, nasal and pharyngeal secretions showing that the specific germ of scarlet fever must exist therein.

It is doubtful if the disease can be spread by the patient's breath, but it may be from the scales during desquamation and at any time from all the excretory of the body. The germ is of extreme vitality and may exist for years in unused clothing. Infection can take place from carpets and furniture of the sick room and in fact anything that has come in contact or close proximity to the patient.

Age is a predisposing factor in the cause of scarlet fever. Half the cases are said to occur before the 5th year and 90 per cent before the 10th. Nursing infants generally escape, but adults are occasionally affected. One attack generally confers immunity but second attacks are not extremely rare.

The characteristic lesions of scarlet fever are those of the skin and mucous membranes of the mouth and throat but these generally disappear after death. Those found in the different organs are the result of high temperature or pyogenic infection. The liver and spleen are engorged; the muscles reveal granular degeneration; and the kidneys show lesions of hemorrhagic nephritis.

There are three varieties of scarlet fever: simple, anginoid, and malignant.

In the simple, or ordinary type, the invasion is usually sudden, and is characterized by vomiting, fever, sore throat, and rapid pulse. In older children a chill is sometimes the first symptom; in younger, a convulsion.

The vomiting is not accompanied by nausea and is usually repeated several times. The temperature is frequently found to be 103 degrees F. at the first visit and may go higher on the first day. An initial temperature of 104-105 degrees F. indicates a severe attack; below 102 degrees a mild one. The fever reaches its highest point at the height of the eruption, then begins to subside and becomes normal at a period ranging from the 9th to the 15th day. It is sometimes remittent and in mild cases almost intermittent in character. The pulse is very rapid, out of proportion to the fever. The respiration is hurried; the appetite lost; the bowels constipated and the urine is scanty, highly colored and often albuminous.

Sore throat is one of the earliest symptoms. The pillars, tonsils and walls of the pharynx are bright red in color and numerous dark red macules may be seen on the hard palate. In severe cases the tonsils may be studded with follicular spots or may be covered with a false membrane. At first the tongue is covered with a heavy white coat with red papillae projecting through. In a few days this coat disappears leaving the surface clean and red and the papillae enlarged. This is the strawberry tongue pathognomonic of this disease. Sometimes this is the only symptom by which a diagnosis can be made.

I saw a typical case of chicken pox complicating a mild case of scarlet fever. The first examination failed to reveal the latter disease, but in a few days the exfoliation of the white coating on the tongue led to the discovery of a faint scarlatinal rash in the groin.

The eruption usually appears during the first twenty-four hours. It is a scarlet red punctiform rash. It begins on the neck and chest and spreads rapidly over the entire body. It lasts from five to seven days and is followed by a flaky desquamation. The period of desquamation may last from ten to thirty days.

Restlessness, headache, insomnia, delirium and convulsions may occur during the course of the disease.

In the anginoid type of scarlet fever, the throat symptoms predominate. The tonsils are intensely swollen and are covered with a false membrane. The fever is high and the prostration profound. Ulceration of the throat frequently occurs. Death may result from exhaustion, asphyxiation, pneumonia or hemorrhage.

In malignant scarlet fever the onset is abrupt, with a chill, vomiting or convulsion. The fever is very high (106 degrees F.-107 degrees F.) the pulse is rapid and feeble; delirium sets in, and is followed by coma. Death may take place before the appearance of the rash.

Nephritis is a complication that must always be looked for. It generally develops during the third or fourth week after the fever has subsided and convalescence is well under way. It may follow a severe or mild case. In severe attacks of nephritis there may be suppression of urine, general edema and uremic symptoms. Recovery is the rule in many cases but uremia may be the immediate cause of death in others.

The infection may attack any part of the body. The middle ear, heart, lungs, glands of the neck and joints may be the seat of inflammation or suppuration.

The diagnosis of a typical case of scarlet fever should not be difficult when we keep in mind the characteristic symptoms. The abrupt onset, vomiting, high fever with very rapid pulse, the erythematous condition of the throat, the macules on the hard palate, the enlarged papillae on the tip and edges of the tongue, and the early appearance of the rash. The atypical cases may be confounded with acute tonsillitis, diphtheria, measles, rubella and the various drug and food eruptions, but a clear history of the case with a close observation of the throat and tongue during a few days ought to clear up the diagnosis in most cases. Sometimes desquamation decides a doubtful case. In severe throat cases we can always have a culture made to differentiate from diphtheria.

When we consider that the mortality of scarlet fever varies from three to forty per cent. in different epidemics, it emphasizes the importance of a strict quarantine to prevent the spread of the disease. The patient should be isolated for at least four weeks or until desquamation is complete, then only after a thorough disinfection of himself and everything connected with the case, should he be allowed to mingle with other children. The physician who attends a case cannot exercise too much care for the protection of his other patients. I make a practice to cover my hair with a towel and wear a gown over my clothing when in the sick room, and between visits the gown and towel are sprinkled with formaldehyde and wrapped in newspaper, so they are always freshly disinfected. The hands and face should always be washed in some antiseptic solution after each visit.

As we have no specific for scarlet fever our aim should be to treat the symptoms as they arise and prevent, if possible, the complications. The patient should be kept in bed on a liquid diet during the febrile period. The bowels should be opened with small, repeated doses of calomel and kept open by mild laxatives or hy enemata. The urine should be examined frequently. I find a combination of potassium acetate, spirits aetheris nitrosi and liquor ammonii acetates in appropriate

dosage in camphor water acts not only as a mild febrifuge but as a diuretic as well. Fever above 103 degrees F. calls for bathing. The nose and throat should be kept clean with mild antiseptics such as Dobell's solution diluted. In severe cases stimulants may be required. Strychnine and digitalis should be given. I do not favor alcohol on account of the possible effect on the kidneys. Otitis requires the treatment demanded by the disease in other conditions. Restlessness and nervous symptoms are sometimes relieved by cold to the head or by small doses of bromides. Nephritis should be treated by cathartics, hot pack, diuretics and stimulants.

Antistreptococcic serum has been used in the treatment of scarlet fever and some very favorable results have been reported. I used it in a case of puerperal scarlet fever without result. I also used streptococcic vaccine on this case with no result. This, of course, was not a fair test.

In conclusion I want to report one case of the severe anginose type treated with antitoxin:

Burt S., age 10 years, during the night of February 15, 1910, was seized with an attack of vomiting, next day rash appeared, complained of sore throat. I saw him on the morning of February 17, 1910, rash covered the entire body, conjunctiva injected, tongue coated with red papillae on tip and edges, tonsils swollen and covered with small areas of exudate which were easily removable. Temperature 103 degrees F., pulse 120; patient restless. There was a noticeable swelling at the angles of the jaw. February 18, patient very restless, pain on swallowing, swelling at angle of jaw increased, tough membrane covered tonsils, bleeding on removal, rash more pronounced; temperature 104 1-2 degrees F., pulse 136, vomiting all medicine and food. At 6 p. m., temperature 105 degrees F., pulse 140. I then gave 3000 units of antitoxin. February 19, 8 a. m., temperature 102 degrees, pulse 100; 6 p. m., temperature 101 degrees F., pulse 90. February 20, 8 a. m., temperature 101 degrees, pulse 90; 5 p. m., forty-seven hours after the administration of antitoxin, temperature normal and the rash had faded away. The convalescence was uneventful with no complications. The desquamation in this case was extreme, even to the nails of the fingers and toes.

DISCUSSION.

David C. Morton: It seems to me that scarlet fever should be termed "treacherous fever", because the sequelae of this condition are more frequently apparent after mild cases than they are following severe cases. Notable among these sequelae is scarlatinal nephritis, which so often

follows in the wake of the disease. To employ a paradoxical phrase, it might be said that in such cases the disease is one in which the patient is much sicker after he gets well than he was while he was sick. I had an opportunity of seeing a case of this kind in a young man, about 27 years of age, who, from the description he gave me and from the fact that he had a bran-like desquamation of the skin on the chest, particularly above the right breast, appeared to have had an unobserved attack of scarlet fever five days before I saw him. When I saw him he had an active, acute nephritis, and it was only upon carefully questioning him that I elicited the history of a very transient, erythematous eruption, which had occurred about five days previously. Curiously enough, this young man gave a history of one of those persistent albuminurias, for which he had been under the care of no less eminent a man than Dr. J. H. Musser, of Philadelphia. I had hoped, on a recent visit to Philadelphia, to discuss the case with Dr. Musser, but, unfortunately, he died while I was on the way there. It is a curious fact that nephritis following scarlet fever often occurs in patients whose kidneys have shown some previous evidence of abnormality, such as an illy defined form of albuminuria.

I would like to mention one point in the differential diagnosis of scarlet fever from other more or less erythematous eruptions. Upon pinching the skin over the sternum between two fingers, there will be extravasation of blood, which, if the condition is scarlet fever, will persist for a considerable time, but will not persist if the condition is other than scarlet fever. I saw this tried at St. Augustus Hospital in Vienna, last year, during quite an epidemic of scarlet fever, and in practically every case which afterwards proved to be scarlet fever, upon pinching the skin the extravasation would appear and persist, while in those cases in which scarlet fever was not present, it did not persist.

I was very much interested in the doctor's description of the case which he treated with diphtheria anti-toxin. Of course, it is not impossible that this case could have been a combination of scarlet fever and diphtheria. I would like to ask Dr. Sanders if a search was made for the Klebs-Loeffer bacillus before or after giving the anti-toxin, or at any time during the course of the illness.

M. L. Ravitch: I have seen quite a number of cases of scarlet fever in consultation. There is one thing that I think should be borne in mind in connection with the diagnosis, and that is the manifestation of so-called "goose-flesh" in all these cases. Another important diagnostic point is dermatography; I have never seen it fail in a case of scarlet fever. If you pinch the skin it will first turn pale, then red, then white and remain that way for from two to five minutes.

I have seen cases which were not scarlet fever have a scarlatinal form of eruption, sometimes in-

duced by toxemia, by food or by drugs. Some cases of measles and German measles are complicated by scarlet fever.

In many of these cases the administration of diphtheria antitoxin will do a great deal of good. Dr. O'Connor will remember a Sister at the Sacred Heart Academy who had purpura hemorrhagica, with all the throat symptoms of scarlet fever. She had purpura all over the body and even the intestines were affected. I gave her five thousand units of antitoxin and she got well.

Occasionally scarlet fever is accompanied by herpes, sometimes on the lip and sometimes over the eyes. I have seen cases accompanied by urticaria; others where eczema developed and sometimes it is complicated by tuberculosis.

In regard to Dr. Morton's case, while I have not seen this patient, it is very doubtful whether this was a case of scarlet fever, as he says the patient was 27 years of age. I knew this young man's brother, having treated him for eczema for several years. He then consulted a homeopath and died about a week later. In the case mentioned, therefore, it seems that albuminuria and glycosuria was a family characteristic, and I am inclined to believe that this was not a genuine case of scarlet fever but probably some other form of erythema.

E. F. Katemann: I wish to speak to just one point, and that is the possibility of a person having two attacks of scarlet fever. I have seen quite a number of such cases, but invariably the second attack was a mild one.

I believe we often lose sight of the fact that scarlet fever may occur without an eruption. This point was especially impressed upon me during the last epidemic we had here. I have seen a number of cases with coryza, low temperature, fast pulse, glandular involvement, etc., but without any eruption. In such cases, not being positive as to the diagnosis, it has been my practice to quarantine the patient, but the family, as a rule, seeing that the case was a mild one, would not strictly obey orders, with the result that in two or three days or a week, some other member of the family would contract the disease, thus confirming the diagnosis.

I believe that many cases of albuminuria can be traced directly to an attack of scarlet fever, most frequently of a mild type.

Bernard J. O'Connor: Most of the points in connection with the diagnosis of scarlet fever have been well taken. Many cases of scarlet fever present a great many difficulties in the way of a diagnosis. Possibly some of the points mentioned have not been sufficiently accentuated. One of these is the pulse. Many of the speakers have mentioned a rapid pulse, but not a word has been said about a full, bounding pulse. In diphtheria the pulse is rapid, but is of considerably lower tension than in scarlet fever. Another point is emesis—not one or twice, but keeping up for twelve to twenty-four hours, or until

the bowels move well, emesis without any apparent cause. The temperature in scarlet fever is anomalous, as compared with the temperature in the ordinary run of infectious diseases. As a rule, a high temperature is a rather favorable prognostic symptom, but in scarlet fever apparently the higher the fever the more dangerous the disease. This does not always hold true, however.

Glandular hyperplasia is another manifestation that has not been mentioned. In scarlet fever glandular hyperplasia is not confined to the cervical glands, but all of the lymph nodes in the body will be found to be slightly enlarged, and slightly tender in well-marked cases.

Just a few words about treatment. My experience has been that nephritis does not always follow scarlet fever. Scarlatinal nephritis is a common condition, but it most frequently occurs in neglected cases—some of them never having been under the care of a physician. During the past winter, I am sure that there were a large number of cases of scarlet fever of a mild type that never reached our hands. Scarlatinal nephritis can be prevented in almost every case by the early use of hexamethylenamin. If given in sufficiently large doses right from the beginning, it is seldom that any grave disturbance of the kidneys will follow the attack. This has been borne out by the testimony of men throughout the whole country.

The question of treatment of scarlet fever complicated by diphtheria is a very important one. Diphtheria frequently occurs as a complication of scarlet fever, and it does not always occur with a membrane. Therefore, I think it is advisable, in every case of scarlet fever, to make a culture. I saw one case last year, which later fell into the hands of Dr. Katzman, in which I made a diagnosis of diphtheria, but later a typical scarlatinal rash developed and the patient died within thirty-six hours after the onset of the symptoms. I saw this case for another physician, but did not have a culture tube with me at the time. In reporting to the doctor I advised him to make a culture and have a bacteriological examination made.

Just a few days ago I saw a case which accentuated the fact that we may have diphtheria without a membrane formation. This patient had symptoms so suggestive of diphtheria that I began the administration of antitoxin before making examination of the slide. There was no evidence of a membrane formation. Bacteriological examination, however, confirmed the diagnosis. In two days, under the administration of antitoxin, the symptoms had disappeared.

O. H. Kelsall: Some interesting points in connection with scarlet fever have occurred to me. One is the difficulty of diagnosis in the colored race. How are we going to diagnose scarlet fever in a negro with a dark skin? I remember slipping up in a case of this kind some years ago. The patient was a colored boy, about 17 years old,

who presented symptoms of a rather severe pharyngitis and fever, and I did not suspect scarlet fever. After a few days' treatment he felt better and went back to work. Three or four weeks later I happened to see him again and noticed that he was "peeling." In the colored race our diagnosis must be based on such symptoms as a strawberry tongue, the appearance of the throat, etc.

In regard to scarlatinal nephritis, as has been stated here to-night, this is more apt to develop late in the disease. I think one of the best prophylactic measures is to keep these patients warm. When the skin is in the exfoliating condition, chilling of the surface of the body is very apt to result in congestion of the kidneys, thereby predisposing to nephritis. Therefore, I believe that, during the exfoliating period and for some time afterwards, especially in chilly weather, these patients should be kept in a warm room.

Some years ago I read something about the sulphide of calcium as a prophylactic against scarlet fever. I have made use of this agent in all cases where there were other children in the family exposed to the disease, and it has been my uniform experience to never have more than one case of scarlet fever in a family. Several years ago I had a case of scarlet fever in a boy, about seven years of age, whose brother, nine years old, slept with him. I put the brother upon sulphide of calcium and, while he had been exposed to the infection as thoroughly as any one could be, he did not develop the disease. A few years ago I had a case of scarlet fever in a family in which there were eight children. I practiced isolation but, as you all know, this is never perfect. However, I put them all on sulphide of calcium and there was only one case in that family.

In my own family, about two years ago, my little boy, seven years old, had a case of scarlet fever of the anginoid type. I made an attempt at quarantine, but even with a trained nurse I must admit that it was not perfect. Some of the little ones would run in occasionally. I put them all on sulphide of calcium and no further cases developed. This has been my uniform experience, and I make it a rule to give all exposed children sulphide of calcium.

Wm. A. Keller: This subject is one of great importance to the general practitioner and specialist alike. A great many points have been brought out, some of them good and some of them not so good. I have always noticed that the vomiting in scarlet fever is of a projectile type, and I have also noticed that it is frequently the first symptom that manifests itself.

In regard to the pulse and temperature, while I would much rather have a temperature of 101 or 102, with a not too rapid pulse, still those with a higher temperature are much better to handle. I think the prognosis depends, to a great extent, upon the severity of the epidemic. In some epi-

denies the disease is very severe, while in others it is comparatively mild. One of the speakers mentioned the fact that the majority of cases of scarlet fever do not come into the doctor's hands, and I quite agree with him. On quite a number of occasions people have brought their children to me and asked if they had had scarlet fever, and they were peeling at the time.

I do not believe that diphtheria is a complication of scarlet fever nearly so often as it is claimed to be, and that the membrane we find is simply a scarlet fever sore throat.

One of the speakers reported a case of scarlet fever in a young man, 27 years old. I remember seeing a case in a woman, 60 years old. She had nursed her grandchild through a very severe attack, and after the child got well she developed a typical case of scarlet fever, but pulled through in good fashion.

I agree with Dr. Nickell in regard to relieving the work of the kidney by hot baths, and proper diet. I always give instructions that the child shall be put on an absolute milk diet, and I have seen very few kidney complications.

I also agree with one of the other speakers in regard to keeping the patient warm. In most instances, nephritic complications come on about two weeks after the patient has begun to convalesce. I believe this is due to exposure to cold; the body gets chilled, and of course this predisposes to an infection of the kidney.

As to middle ear complications, I have had quite a little experience in treating ear cases, and I do not know of anything that is so hard to manage, or where less can be promised in the way of good results, especially in long-standing cases. As Dr. Nickell stated, I think it is a good plan to open the ear and thoroughly drain out the pus. If this is done I do not believe the results will be so bad so far as permanent loss of hearing is concerned. However, we must bear in mind that the average doctor when he has a case of scarlet fever is thinking more about that condition than he is of the ear. He has a serious disease to contend with, and he is not apt to pay as much attention to the ear as he does to the high temperature, kidneys, etc. It is certainly a disease that will make any one "sit up and take notice."

A. W. Mitchell: The subject of scarlet fever is one of the most interesting of any of the exanthemata. It is also one of the most dangerous diseases to which children are subject, because of its complications. I will not take up all of the various complications, but will confine my remarks principally to the most serious of these, which I consider to be nephritis, otitis media, and cervical adenitis. The latter is a frequent complication and, when suppuration occurs, the most troublesome one. With the first sign of a swollen gland, apply an ice-pack and keep it constantly in position, if possible, day and night. It is true, this is attended with difficulty in some cases,

at which times cold compresses, with water at a temperature of 50 or 60 degrees, covered with oiled silk and changed every 30 to 60 minutes, gives excellent results. As regards middle ear suppuration, this is a complication in from 10 to 30 per cent. of all cases of scarlet fever. When we consider how many cases of permanent deafness have and do occur, every year, as a result of carelessness, or a lack of even ordinary knowledge of the diagnosis of these ear affections, we do not feel disposed to congratulate the member of the medical profession on their ability to complete their cases. Noy has collected statistics of over five thousand deaf mutes, almost 600 of whom owe their condition to otitis following scarlet fever. I think any one with ordinary discretion, who knows anything about the elementary principles of nasal diagnosis, can tell pretty well when pus is present, and in view of the grave possibility of mastoid involvement, sinus thrombosis, and jugular bulb infections, it is imperative that pus in the middle ear be promptly detected and evacuated, and if we will perform paracentesis early, evacuate the pus thereby giving proper drainage, and institute the necessary after-treatment, we can prevent a large per cent. of deafness to which these unfortunates are so very liable.

As regards nephritis following this affection, I do not quite agree with the essayist in regard to the use of digitalis in a condition where the kidneys are already more or less crippled. Cases are on record in which, after three or four days, the patient developed an acute general nephritis. In these cases of scarlatinal nephritis, active measures to increase diaphoresis and thus relieve the kidneys, to my mind, should be instituted. In these cases it is by attempts to force the kidneys to act by the use of digitalis and alkaline diuretics that we do an immense amount of harm. Digitalis drives more blood into the kidneys which are always deranged, and increases their congestion. Alkaline diuretics disturb the stomach, which shows food intolerance. Therefore, in this class of cases, the best treatment is a carbohydrate diet, because it gives no by-products for the already irritated kidney to work on, and by wet packs and hot baths, supplemented by colon flushing with warm saline solution, increasing diaphoresis and thereby relieving the kidneys, the results are much better than by the internal medication just referred to.

I am not very sanguine about serum therapy in the treatment of scarlet fever, because, in a condition where we do not know the causative agent, I do not understand how we can administer rational therapy. Scarlet fever is supposed to be due to a mixed infection, and the administration of anti-streptococcal serum may possibly, in certain selected cases, give good results. I have made a number of experiments along this line, but they have never been attended with the degree of success that I would like to see.

T. K. VanZandt: There has been so much said on this subject that I wish to mention only one point; that is, the effect of the diphtheritic antitoxin in scarlet fever. I recently had a case of diphtheria complicating scarlet fever. The symptoms of scarlet fever were typical for the first ten days. Then a membrane developed in the throat which I at first thought was scarlatinal. I had Dr. Allen make an examination which was negative, and a second examination also proved negative. Then he made a culture from the membrane and it was positive. I gave the child 19,000 units of antitoxin. The diphtheria was of the laryngeal type, and the tonsils were very much enlarged. The child is now in the second week of the diphtheria. There is still a great deal of difficulty in breathing. The temperature has been running around 102; pulse 140 to 150. To-day the pulse is 120 and the temperature 101.

Wm. Sanders, (Closing): I wish to thank the gentlemen for their discussion. Answering Dr. Morton's question, I will say that I had no search made for the diphtheria bacillus, although I have thought since that I should have done so. I was surprised that the case cleared up so quickly.

CLINICAL CASES.

REPORT OF CASES.

By D. Y. KERN, Louisville.

CASE I.—RECURRENT CARCINOMA (MULTIPLE).

Mrs. S. C., female, white, widowed, age 72.

FAMILY HISTORY.

No history of cancer in family. Has three children living, youngest age forty, all in good health.

PERSONAL HISTORY.

Has always been a very active woman with fairly good health. She was operated upon thirty years ago for some rectal condition with an ideal result. Three years ago the axillary glands with right breast were removed, which proved to be carcinoma upon microscopical examination.

The line of incision was exposed to the X-ray several times after the operation. During the past few years she has had an occasional attack of gastric distress, usually being relieved by elimination and digestants.

I was called to see the patient on August 29, 1911, in an emergency, and found the following condition:

Patient was in a state of collapse with profuse perspiration, pulse 140 very irregular, marked dyspnoea unable to breathe except in the semi-supine position. Physical examination revealed a markedly distended stomach displacing the heart upward and to the left

causing it much embarrassment. Chest examination negative except few large rales in the bronchi.

Patient suffered no pain but looked distressed. Spent a very uncomfortable night but improved under rest and elimination. Dyspnoea was marked on slight exertion, during entire course of illness.

Urinalysis showed a trace of albumin with very small amount of urine. No casts were present.

Patient improved for a few weeks and then began to decline which was gradual until the end. Slight induration was present along the line of incision with two or three small hard nodules at the upper end of incision.

Slight tenderness on pressure was present all the time over the upper abdomen with very tender spot at the splenic flexure of the colon.

Constipation only slight. Pain in the early part of illness in right shoulder and scapula; later the most marked and constant pain was over the pyloric end of the stomach and liver region radiating to the right axilla.

Chest examination negative until six weeks before death when dullness appeared over lower part of the right lung with absence of breath sounds.

The dullness gradually increased until the lower two-thirds of the right lung was silent. Throughout entire illness nausea was marked at intervals with only slight vomiting. No blood ever present in vomitus or in the stools. During the last three weeks of illness she was unable to take more than one or two ounces into the stomach without becoming nauseated. Rectal feeding was used to support her for three weeks or more.

No tumors of the viscera were ever palpable. At no time was the temperature above 99.4 degrees Fahrenheit, pulse ranging from 86 to 106.

Treatment was symptomatic.

AUTOPSY REPORT.

On opening the abdomen the large bowel was all that could be seen, it being distended. The transverse colon was prolapsed into the pelvis.

A portion of the sigmoid was adherent to the uterus and left broad ligament. In the wall of the entire large bowel could be seen many small brownish specks though they were only slightly palpable.

In the mesentery of the large bowel numerous small hard neoplasms were present from the size of a grain of wheat to that of an almond.

These small tumors were in chains, the largest number being in the meso-sigmoid. The appendix was dilated. A tumor the size of a vest button was present on the tip and two smaller ones in the meso-appendix. Be-

hind the peritoneum in the walls of the abdomen were many of these small tumors. Behind the stomach was a mass of these neoplasms possibly one hundred in number which bound the pyloric end of the stomach to the spinal column, causing a partial obstruction. The stomach was small and very flabby. Many small tumors were present on superior surface of the bladder just under the peritoneum. Six or eight were present on upper surface of the right lobe of the liver, all of which were umbilicated. Bile passages distended though otherwise normal.

Right lung was adherent to chest wall. The chest wall being filled with numerous small tumors, also involving the parietal pleura.

COPY OF LABORATORY REPORT.

Louisville, Ky., March 11, 1912.—Section shows liver with isolated areas of fatty infiltration and some network of connecting tissue. One portion of section shows a nodular mass of tissue in which there are groups of spheroidal cells with vesicular nuclei in a mass of rather old fibrous tissue.

MICROSCOPICAL DIAGNOSIS.

Metastasis to liver of an epithelial growth with connective tissue formation with history of a carcinomatous breast and subsequent amputation and the picture in mind of a sclerosed carcinoma with great connective tissue growth. I should associate this metastatic growth with the original growth in breast.

Leon K. Baldauf, A. B. M. D.

CASE II.—CHOREA COMPLICATING PREGNANCY.

Mrs. D. R., female, white, age 27, married. Nationality French-American.

FAMILY HISTORY.

Negative. No history of chorea or any nervous disease in paternal or maternal ancestors except maternal grandmother suffered an attack of hemiplegia in this month, January, 1912.

PERSONAL HISTORY.

Has had diseases of childhood; no other serious diseases. Had abscess at root of tooth two year ago following some dental work.

First menstruation appeared at the age of twelve, second menstruation two years later since which time menstruation has been regular until four months ago when patient became pregnant.

Patient has had none of the unpleasant symptoms of pregnancy. Feels as well or better than she ever felt before in her life.

PRESENT HISTORY.

Patient came under my observation January 2, 1912, giving the following history: Five weeks ago noticed a slight inco-ordination of the muscles of right forearm and hand more marked in the index finger and the

thumb. Next noticed involuntary twitching of the hand with purposeless movements of the forearm, and was unable to write legibly.

In a short time she became unable to handle small objects on account of the involuntary extension of fingers when holding objects.

When patient consulted me she was unable to write, dress herself or even to use the right hand in eating her meals.

PHYSICAL EXAMINATION.

Patient rather small in stature, plump and well nourished. Eye reflexes normal, visible mucous membranes very pale and anemic. Pulse normal; temperature normal; heart and chest examination negative.

Purposeless movements of hand and forearm very noticeable. Movements of hand and fingers consisted of involuntary flexion and extension of fingers at irregular intervals.

No twitching of the face muscles present. Slight inco-ordination of the muscles of right lower limb visible when walking.

DIAGNOSIS.

Chorea, complicating pregnancy in primipara.

TREATMENT.

Patient was instructed to take as much rest as possible, given a carefully regulated diet under good hygienic surroundings. Was given Fowler's solution beginning with minims three after each meal, increasing one minim each day until minims seven were reached. This dosage was continued for ten days then a rest of two days, beginning again with seven minims and reduced until minims three were given which dose she continued till the end of the fourth week. Patient was then given iron and strychnine arsenate in small doses.

Patient having a friend who was a professional masseur was given a massage of the right arm, forearm and hand twice daily. Patient leaving the city on February 7, 1912, free from any involuntary twitches.

On February 26th, I received a letter from the patient stating that she was feeling well and free from all symptoms.

Just a word in regard to the rarity and the mortality of chorea complicating pregnancy: Sebree has collected 154 cases with a mortality of 22 per cent. Buist collected 255 cases with a mortality of 17 per cent. French and Hicks reported only 29 cases which had been observed in Gray's Hospital in the previous thirty years with a mortality of 10 per cent. By various authors the mortality is placed at from 10 to 36 per cent.

Pregnancy in choreic individuals is unimportant while in chorea that does not appear until after conception the prognosis is grave.

The movements may become so intense as to interfere with eating, or sleeping and abortion may occur spontaneously. The appearance of fever is of serious import and at autopsy evidences of malignant endocarditis are found. Williams says the only case of the grave variety he has seen died in spite of the fact that the patient fell into premature labor spontaneously a short time after admission to the hospital.

Sixty per cent. of all cases occur in primigravidae usually occurring in the first third of pregnancy, showing a tendency to persist.

Twenty-five per cent. of all cases occur in the third month of pregnancy. In the case just reported the first symptoms were observed in the tenth week of pregnancy.

Chorea in pregnancy is very rare after the second pregnancy except as a recurrence. The only recorded case occurring for the first time in the fourth pregnancy was of doubtful diagnosis as the movements were confined to the lower limbs.

Prognosis in these cases should always be guarded on account of the tendency to persist for when the disease assumes the gravid type it is attended with great danger.

If the patient appears to be in serious danger premature delivery should be brought on as experience has shown that the emptying of the uterus is usually followed by marked improvement.

Causes of death are muscular exhaustion, heart failure, insanity, or the sequelae of an interrupted pregnancy.

DISCUSSION.

G. S. Hanes: I had the good fortune to be present at the autopsy in the second case reported. There were three features of this autopsy that were very interesting to me. The first one does not pertain at all to the pathology of the case. There was complete ptosis of the transverse colon. Usually where there is extensive or complete ptosis of the transverse colon, there is also ptosis of the hepatic flexure, and also, to a large extent, of the splenic flexure, but in this case these two points seemed to be in normal position. The center of the transverse colon was prolapsed into the brim of the true pelvis. The picture was that of a perfect U, the first arm extending up to the hepatic flexure and the second extending up to the splenic flexure.

The second interesting feature pertains directly to the pathology. I was very much impressed, not having seen a great many autopsies, by the extensive metastatic infection that had occurred in this case. This tumor, as Dr. Keith said, was primarily in the right breast, and was removed two years before the patient's death. There was no evidence of any tumefaction in the original site, except I believe Dr. Keith said there were one or two small masses. The deposits he spoke

of were extensively deposited under the peritoneal lining of the posterior and lateral abdominal walls. A large chain of lymphatic glands extended along the left sacro-iliac synchondrosis, and small deposits were numerous in the walls of the large and small intestines; in fact, they were scattered in and under all the peritoneal structures of the abdominal cavity.

The third interesting feature is that this infection traveled through the chest wall to the lining of the thorax. The serous coat of the thoracic wall, and the serous covering of the lung was involved. The entire right lung was adherent to the thoracic wall. Upon tearing it loose and palpating any part of the surface of the lung, these deposits could be detected.

The most interesting feature of the whole thing is that Dr. Keith got an autopsy. It took a shrewd man to attempt it in this case, and he is to be complimented. Our profession would know a great deal more if we had been doing for many years what he did in this case. It is a very easy matter to make a statement as to what caused the death of a patient when one is absolutely certain that nothing will come of it later, but when an autopsy is held, and you can go in and see exactly what has occurred, then you have gained profound knowledge. Dr. Keith has set an example of the only way in which we can definitely ascertain what causes death in various intra-abdominal, intra-thoracic, or intra-cranial troubles.

Irvin Abell: I wish to congratulate Dr. Keith upon the thorough and detailed account he has given us of this case. What Dr. Hanes said in regard to the autopsy would apply with equal force to the study of the case before death, the thoroughness with which Dr. Keith has gone into the family and personal histories showing familiarity with the patient from all angles.

This autopsy bears out two very interesting facts; first, that all breast lymphatics do not lead into the axilla, that they do pass through the ribs into the intrathoracic structures, and, furthermore, that they pass on through the deep epigastric structures into the abdomen, so that, in doing a breast amputation, cleaning out the axilla does not necessarily mean that all the lymphatics that may be involved are removed.

Another important point illustrated by this case is the futility of doing late operations in the presence of malignant growths. I grant you that it is hard to resist when the patient and the family insist your giving them one last chance, but I do not know but what it is best to refuse operation in such cases, and send them back home with the information that they have applied too late. This would help to impress upon the laity that operations for cancer, to be successful, must be done in the incipency of the condition. How often do patients come to us with a tumor, and say that if it proves to be a cancer, they do not want it operated upon? I have seen many cases

in which operation seemed to disseminate the infection and death was more rapidly brought about. It is absolutely futile to attempt to relieve these patients. We may prolong life slightly, but the greatest good to the greatest number in such instances would come from refusing to operate with the information that we cannot save their lives because the disease has progressed too far. A careful study during life and detailed autopsies, such as has been given us in Dr. Keith's report, will not only increase our knowledge of the condition, but, if spread before the laity, will be of inestimable value in bringing these patients to us at a time when we can really be of service to them.

W. C. Dugan: I wish to congratulate the society upon having heard Dr. Keith's report. I have enjoyed it very much indeed and hope it will be a lesson to all of us to be more thorough and careful in making reports to this society.

Edward Speidel: I would like to ask whether any of the members, besides Dr. Keith, have ever seen a case of chorea complicating pregnancy.

J. Hunter Peak: I have never seen but one case, and that was in a young lady upon whom I had operated some years before for an old empyema. This young lady lived in a neighboring town and was referred to me by her physician there. Later she had an involvement of the clavicle—some bone condition—and a portion of that was removed. When I first saw this woman she was very thin and anemic, presenting the appearance of one in the last stages of consumption. She began to gain rapidly in flesh and inside of a year had gone from 105 to 170 pounds in weight, and was as fine specimen of womanhood as one would want to see. Five or six months after having this trouble with her clavicle, while in seemingly good health, she developed a choreic condition, for which I was called to see her in consultation. The doctor gave her about the same treatment as detailed by Dr. Keith, and she recovered. She later married and became pregnant, and for the first 3 1/2 months had no trouble whatever. Then she developed a choreic condition, and both the patient and her parents were very much alarmed. Her physician asked me to see her, thinking that it might be advisable to bring on a miscarriage. However, her people were very religiously inclined and did not believe in anything of that kind, the girl herself saying that she would rather die than submit to such procedure, and it seemed to me for a time that she would die. I have never seen so many violent, purposeless, muscular contractions of almost every muscle of the body, even of the tongue; she could not talk for days. This condition persisted for about eight weeks, not always so bad, sometimes being controlled by the bromides and other nerve sedatives. The same treatment as before was instituted and she finally recovered. She went on to what was supposed to be full term pregnancy, but I learned later that she was de-

livered of a dead child. She herself made a perfect recovery.

Edward Speidel: I congratulate Dr. Keith upon having seen this case. I have seen nearly every complication of pregnancy and labor, I have never seen a case of this kind.

There are two distinct forms of chorea in pregnancy. The first is that in which a young girl has chorea, and later gets married, becomes pregnant and has what might be termed a recurrence of the chorea. The second and more serious form is that in which chorea presents as a primary manifestation during pregnancy, where there is no history of any previous attacks of chorea. The first form is supposed to be very common and, as a general thing, is a very simple condition that passes away during the later months of pregnancy. I have seen many cases of hysteria and epilepsy aggravated by pregnancy, and it is not astonishing that the same should be true of chorea when we remember that one of the signs of pregnancy is mental and emotional disturbance, probably aggravated by the anemic condition common to this class of patients.

D. Y. Keith, (Closing): I wish to thank the gentlemen for their discussion. I am very glad that Dr. Speidel pointed out the difference between the case I reported and that mentioned by Peak. It is altogether a different disease so far as the pregnancy is concerned. Most authorities tell us that a choreic individual becoming pregnant usually goes to full term without any trouble, but that in an individual with no choreic history, who become pregnant and then develops chorea, the condition is a very grave one. That is the point I wanted to bring out in the report.

I am very sorry that I had to report this case somewhat prematurely. This woman is the wife of a professional singer, who stayed here only a short time for treatment and then went to her home in Michigan. If she lived in the city I would not think of reporting the case until after confinement, so as to see whether the condition would recur, or take on a grave character.

(Later—This woman was delivered of a full term child at her home in Michigan, in the latter part of June, 1912.)

REPORT OF CASES.

By A. DAVID WILLMOTH, Louisville.

CASE I.

LIPOMA OF UNUSUAL SIZE AND LOCATION.

Mr. A., age 37, white, referred by Dr. Willis, of Cromwell, Ky., with the following history:

Patient, farmer by occupation, noticed some twelve years ago that he had a small tumor growing from the left side about one inch and a half below the crest of the ileum. This tumor being painless in character caused him to carry it some seven years before consulting

a surgeon; when operation was advised his friends protested and he decided to defer the matter. At this time the tumor was of sufficient size and was pedunculated so that it required its being carried in a sack. On November 28, when he came to me for operation the tumor measured seventeen and one half inches in circumference and sixteen and one half inches long; the blood supply was very great and was only prevented from being strangulated by the sac being attached to a belt around his waist. The tumor was removed by clamping off the base and removing the mass by incision extending around the entire pedicle; some eight or ten vessels required ligating. This patient was out of bed in five days and was able to return to his home in ten. A small tumor of the same type (lipoma) was removed just above the sight of the large one.

CASE II.

HYDATID CYST OF LIVER.

Mr. C., white, age 27, occupation farmer, referred by Dr. Craddock, Bonnierville, Ky., with the following history, when seen July 21, at his residence with Dr. Craddock and Dr. Hall the following facts were obtained: Patient had had those diseases incident to childhood and had been in perfect health all his life until 57 days previous to my seeing him, when he was taken with what was diagnosed as typhoid fever. Upon being told this he informed the doctor that since typhoid fever was largely nursing in management that he would employ a nurse and send for him when he needed him. The result was that he was paid eight visits by the doctor during the next 45 days. He was not seen for ten days and when called found patient with pulse around 125, respiration ranging from 20 to 30, and temperature from 100 to 103, tongue coated and dry, abdomen distended with a cyanotic appearance of the right side from the anterior superior spinous process of ileum up to and including the skin of the neck.

Percussion revealed a flat note over practically all of the right lung and extending down over the right abdomen to the upper part of the lower right quadrant. A tumor could be easily felt in this area. At the time I saw him his temperature was 102 1-2, pulse 130 and general condition bad, as the right pleural cavity was now about half full of fluid. On examination I made up my mind that I had one of two conditions to deal with in the abdomen plus the condition in the chest. A careful questioning revealed the fact that he had been fond of dogs all his life and had kept one or more about his house, this together with the elastic feel of the tumor caused me to give an opinion that he had either a hydatid cyst of the liver or a car-

cinoма with the chances in favor of the former.

His general condition contraindicating the work in the abdomen I elected to do the simplest work first and relieve him of the mechanical obstruction to his respiration. So with an aspirator I drew away very slowly one gallon of fluid.

In one week the patient had so improved that he demanded that an exploratory incision be made and determine what, if anything could be done with the tumor. So with a thorough understanding with him, his wife, and father. I made an incision to the outer border of the right rectus muscle and went down directly on a piece of the right lobe of the liver which was attached to the abdominal wall. Lengthening my incision downward, I opened the cavity and found this piece, which was entirely separated from everything except the cyst wall, to be all the liver structure he possessed. A large cyst containing about two quarts springing from the right lobe had destroyed the entire liver. This large cyst had six daughter cysts springing from its wall and attached to surrounding structures which contained one and one-half quarts more of the same fluid. The intestines were so thick and soft that handling them meant many ruptures so I determined at once to stitch the cysts to the abdominal wall and drain. It is needless for me to say that the hemorrhage encountered in the congested wall was something terrific, requiring more than a dozen forceps to control the bleeding points. This patient died at the expiration of about two weeks following the operation.

CASES III AND IV.

ACUTE CHOLECYSTITIS FOLLOWING TYPHOID FEVER.

This is a series of several cases seen during the past year all of which have symptoms in common so to speak; that is, all follow typhoid fever, some earlier than others.

Mrs. M., white, age 26, referred by Dr. Galbert, of Deepark, Louisville, with the following history: She had been running a rather mild temperature for several weeks, but for the past four days temperature had been normal.

Twelve hours prior to my visit she had been taken with chill; temperature 102, pulse 100, with severe pain in region of gall-bladder; muscles on this side were stiff and slight pressure gave pain. A diagnosis of acute cholecystitis following typhoid was made. She was sent to the infirmary and abdomen opened, the gall-bladder at once was found and a few adhesions were separated and the gall-bladder opened, and drained of about one pint of pus and thick tarry bile. Patient was able to return home in two and a half weeks from

time of operation, but since she and her husband were boarding she decided to remain for three weeks.

Mrs. M., white, age 38, referred by Dr. Spencer, of Jonesville, Va., with the following history: That after an attack of typhoid fever several years ago she had been having repeated attacks with her side in the region of the liver. On examination she was not only tender but a thickening could be mapped out here, so an operation was advised and after separating numerous adhesions the gall-bladder was freed and drained of about half a pint of thick tarry bile and mucous. This case left the infirmary in two and one-half weeks and returned to her home in Virginia.

REPORT OF A CASE OF MALARIAL PURPURA.

By M. L. RAVITCH, Louisville.

Though purpuric eruptions are quite rare in malaria, I had the opportunity to see a case in consultation several weeks ago in Lexington. The patient, a young man, age thirty, returned from New Orleans a week before he got ill. Two days before I was called he had developed an eruption on the face, hands and feet. He denied of ever having syphilis or taking any drug. When I saw him, his temperature was only 102. The night before I saw him he had a temperature of a little over 105. He was delirious.

Upon examination, I found the patient had slightly raised macules, the size of a dime and smaller and were of a purplish red color. They partially disappeared upon pressure but gave the impression of a purpura. No doubt but what the patient suffered from malarial purpura. I ordered a blood examination. Blood from the finger tip contained the tertian parasite.

I ordered quinine and arsenic internally and ointment of quinine externally. The patient, as I learned afterwards, ran a course of the disease of remittent type and six days after I had seen him, he was well enough to go about his work, only slight pigmentation marked the site of the eruption.

EXCISION OF RECTUM FOR CANCER; PRESENTATION OF PATIENT.

By G. S. HANES, Louisville.

The patient that I present to you to-night is 57 years of age. There is nothing in his family history that relates in any way to the condition that I shall report.

About two years previous to his operation he felt a small nodule on the posterior rectal wall just above the internal anal orifice. It was not long until he was convinced that this

tumor was increasing in size. He consulted a number of doctors who were by no means of concordant opinions as to the nature of his trouble. Fistula, hemorrhoids, tuberculosis, innocent tumor, syphilis and cancer were all suggested. On account of so much diversity of opinion among regular medical men he decided to try advertising cancer doctors. They all told him he had a suspicious growth that could be easily removed and as evidence of their skill they exhibited large numbers of preserved tumors which were products of their craftwork.

I saw him on November 12th, 1911. He had lost about 25 pounds, was very much constipated, had a great deal of pain and was very nervous. The tumor had grown down and involved the perineal floor between the coccyx and the anus. It had extended up on the posterior rectal wall about two inches and had encircled the rectum just above the internal anal orifice. There was almost complete obstruction and the tissues were broken down just posterior to the anus.

After several days preparation, he was operated on November 25th, 1911. An incision was made on either side of the tumor and anal structures from the coccyx forward to the urethral bulb. The tumor, together with the sphincter muscles, were separated from the surrounding structures; the levator ani was divided on either side and the rectum was dissected loose up to its junction with the sigmoid. The gut was divided at this point and a rubber tube three quarters of an inch in diameter was sewed into the proximal end of the bowel. The perineal floor was closed and the distal end of the tube projected below at the original site of the anus. Liberal drainage was provided for in the anterior and posterior angles of the wound.

He had comparatively no shock after the operation and but little pain. For the first three or four days drainage was profuse. The bladder was irrigated every day for two weeks with warm boric acid solution. In ten days he was walking about in his room and two or three days later he was out in the hall. He remained in the infirmary for almost a month. He is now in good health, has regained his weight and expects to resume his former occupation the first of next month. He has a normal desire to evacuate the bowel and can easily control the inclination until he is conveniently situated for the bowels to act. He has had no reason to take anything to regulate his bowels since early in January. In fact, he claims to have almost as good control over his bowels as he has ever had. He has been using a Wales bougie No. 5 every second or third day ever since the middle of December. There is no inconvenience in introducing the bougie except near the external

opening. At this point it is quite tight. On account of the contraction at the external opening I have advised him to use a No. 4 bougie.

The operation I did in this case was first done by Harison Cripps, of London, and it is known by his name. I decided to do the Cripps operation for two reasons: First, because it was undesirable to invade the peritoneal cavity as the operative field could not be made thoroughly clean and, second, because I did not want to disturb the normal relations of the sigmoid.

I feel confident we have all failed to properly recognize the important part the sigmoid plays in defecation. In this man there is no sphincter muscle of any kind to control the bowel. The control must be due to the sigmoid retaining the fecal contents till time for normal evacuation and the narrow canal through which the feces must pass. If the fecal contents in this case were thin and watery he would of necessity have more or less leakage.

The most important point to which I wish to call attention is that many of these tumors situated low in the rectum or involving the perineal floor and sphincters are not operated on for fear of loss of control of the bowel. And again if they are operated on the growth is not all removed for fear of producing incontinents. I am guilty of doing this very thing. I received word a few days ago of the death of a patient I operated on in 1908. He had a tumor involving the lower part of the rectum and the perineal floor. I operated and did everything I could to preserve enough of the muscle to insure, at least, partial control. In this effort I lost a possible opportunity to permanently cure my patient. By the method I practiced in this case no thought is entertained that frequent control may be possible by the activity of sphincter muscles so we are not deterred from making our operation thorough.

There is no place in the human body, I presume, where metastatic infection is less liable to occur than in the rectal cancer. If, then, these cases could be had when the tumors are young and liberal removal practiced there would undoubtedly be many cures effected.

Loss of control of the bowel or the necessity for a colostomy deters more patients from having rectal cancers removed than any other reason.

DISCUSSION.

Bernard Asman: Dr. Hanes is certainly to be congratulated upon the result he has obtained in this case. Any condition that renders necessary or justifiable the removal of the rectum is a serious condition, and merits the most careful study and consideration. Cases oftentimes come to us,

suffering from cancer of the rectum, in which the question of removal or non-removal is of the greatest importance, and one that we must try to determine by the extent of the involvement. Ordinarily, we believe that if the growth is limited to the bowel wall, it can and should be immediately removed. If there is metastatic involvement, removal will serve to palliate the condition and secure for the patient a much greater degree of comfort. Statistics show, however, that removal of the rectum in such cases is not followed by the result we desire. Sometimes, however, there will be found swelling of the inguinal glands, or the glands just in front of the rectum, but which may be purely inflammatory, and in such cases removal of the rectum is deemed advisable.

The question of the method of the removal is one that always comes up for consideration. I might say, in passing, that the operation described by Dr. Hanes, for excision of the rectum, is not a new one by any means. It has been known for two hundred years, but only in the past thirty years, and more particularly in the past eight or ten years, has it been done to any great extent. Kraske, in 1885, in what is frequently termed his epoch-making paper, declared that the rectum could be successfully removed by taking away a portion of the sacrum and coccyx, thereby securing room to get to the rectum and remove it radically. A great many surgeons then, and perhaps even now, considered this sort of surgery contraindicated in all cases, but in the past three years this has been abundantly proved to be a mistake.

The methods ordinarily considered are, first, the perineal (and the excision Dr. Hanes did is, of course, a modification of the perineal method); then the sacral operation advocated by Kraske; then the vaginal removal popularized by Murphy ten or fifteen years ago; then the abdominal method in cases where the growth is above the attachment to the peritoneum; then the combined operation in cases where the growth cannot be removed either by working entirely from above or entirely from below.

The patient presented is apparently in most excellent condition at this time. The removal of the growth has been radical, and I think he can reasonably hope and expect that it will not recur. That is always the chief consideration. Very often we think we remove these growths radically, with no possibility of recurrence, and yet in a few months or a year or two, the trouble will recur. Again, in other cases, where the condition is apparently hopeless and we naturally expect recurrence to take place, the patient goes along without any further trouble.

This modification of the perineal method, or whatever it may be termed, is indeed a very good one. The only objection to it that occurs to me is this: Since there is no mucous membrane from the point at which the gut was amputated down

to the anus, and the sphincters have been removed entirely, there must necessarily be a great deal of contraction. That contraction is already taking place is quite apparent from the fact that the patient is now using bougies in an endeavor to keep the channel open, and as time goes on I fear that considerable difficulty will be experienced in maintaining a channel of sufficient size to permit of easy defecation.

Another way of making such a patient comfortable, and which I have practiced in several cases, is this: After removing the growth completely, with the sphincters (as is always necessary if they are involved, or if there is not at least an inch of good sound bowel intervening between the sphincter and the lowermost margin of the malignant disease) then, instead of permitting this channel to carry off the fecal matter afterwards, provided an artificial anus in the colon at some convenient point, usually in the inguinal region. An artificial anus, carefully and properly made, at this point will give the patient a very fair degree of control, and of course he will then suffer no pain from contraction at the site of excision of rectum. Then the channel created by the removal of the bowel may be permitted to fill up entirely, if it will do so. It is possible, of course, that discharges may accumulate from time to time, resulting in a fistulous tract which will remain. Had the proximal end of the bowel, after the completion of the excision, been brought down, thus covering the raw surface, and sutured to the anal verge, it is quite possible that the contraction always incident to the formation of scar tissue might have been avoided.

W. C. Dugan: I wish to congratulate Dr. Hanes upon the most excellent result he has obtained in this case, and to place myself on record as advocating this operation. I think all cases of cancer of the rectum should be operated upon, provided there is no glandular involvement nor so much local infiltration as to make the operation inadvisable. I think the doctor was correct in forgetting, for the time being, that there were any sphincter muscles, and taking out all of the muscles and the perineal floor. It is an operation that requires great care, but even if the perineal cavity should be opened, not much risk would be entailed, as it could be sutured up and taken care of in that way. The great danger here is from closure of the fecal fistula, because it is nothing more than that, and it must be cared for faithfully by the patient. However, this man seems to be very intelligent, and I believe he will be able to meet the indications by the introduction of a bougie.

I believe that every tumor of the rectum should be examined and, if found to be cancerous, operation performed. Not long ago I was called to examine a woman for rectal trouble and found a classical fissure of the rectum. She was given an anesthetic, at her home, and the rectum dilated.

At the upper end of this fissure, contrary to the usual condition we find there, was a tumor which I pronounced malignant, and advised excision of the rectum, which was accepted. After removing the tumor, from its appearance I thought I had made a mistake in my diagnosis, although it had a malignant feel. I submitted the tumor to Dr. Allen who, as soon as he looked at it, said it was a fibroid tumor and not malignant, but his report showed that it was not only malignant, but very malignant. This woman was operated upon in October, and a few days ago when I saw her she was the picture of health, and was able to go anywhere without the rectum giving her any trouble, either from gas or fecal matter.

In connection with Dr. Hanes' report, I would like to ask him what he would think of taking a flap from each buttock, passing them into the space that was left and attaching them to the rectum. I believe this would aid materially in preventing the closure of the channel.

F. T. Fort: I believe that, where we have a fistula, as in this case, without the greatest care on the part of the patient closure will take place and an artificial anus will have to be made elsewhere.

Upon looking at the line of this incision, I wondered whether an incision from one tuberosity of the ischium to the other would not have resulted in less contraction, and caused less trouble in the introduction of a bougie to keep the channel open.

I would like to ask Dr. Hanes whether there is any involvement of the prostate gland and if he removed any portion of it.

G. S. Hanes, (Closing): Microscopical examination on this tumor, made by two of our best pathologists, show it to be a typical adenocarcinoma.

Answering Dr. Dugan's question I will say that I have no knowledge of anything having been done along the line of his suggestion. The fistula can be easily kept open in its upper extremity; the contraction is lowered down. In regard to the possibility of this tract healing and an inguinal opening having to be made, I hardly think that can occur as the patient has been passing the bougie since January 1st and it is done with as much ease now as it was done at first. A great many of these operations have been done and I never heard of serious trouble from this source.

The prostate was not involved and was not taken out. It is not at all difficult to remove it at this time.

As regards metastasis I will say that we should all bear in mind the important fact that metastasis seldom occurs when the cancer is located in the gut below the peritoneum. It is for this reason that tumors located in the rectum are unusually favorable for operation.

One of the chief reasons for patients hesitating in having rectal cancers removed is the fear they have in being unable to control the bowel.

The dread of incontinence is greater than all things else. No doubt, in many of these cases, an opening could be made in the left inguinal region and fair control established, but it is difficult to persuade patients away from the prejudices they have against this kind of procedure.

This method of operating, as I have said, is new to me so far as my personal experience goes. I shall watch these cases with a great deal of interest and if nothing in the nature of extraordinary complications arises I will feel much more at ease when I have similar cases to deal with in the future. And I believe I will be able to do a great deal more for my patients.

ALCOHOLICS.

(CASE REPORTS.)

By EDWARD W. STOKES, Louisville.

Mr. M., age 51, retired merchant; referred to me by Dr. C. O. Neff.

Admitted to Sanatorium September 7th, 1910. History, a chronic drinker for twenty years. He had suffered from hallucinations at times, for two years; marked insomnia and but little appetite. The amount of alcoholic stimulants this patient was taking was one to two quarts of whiskey and many beers in each 24 hours.

Treatment first day, or 24 hours: Patient put to bed and given the following dose every three hours:

Fld. Ex. Poke Rootmv.
or Water Shamrock, or
Tinct. Buck Beanmxxv
or *Meyanthes trifolia*.
Fld. Ex. Ergotmv
Fld. Ex. Gentianmxxv
M. Ft. sol. Dose No. 1.

Also Tinct. *Passiflora incarnata*, drachms 1, (one dose) every two hours. At bed time he was given two (2) improved c. c. pills. Patient was given a hot bath for 15 minutes before retiring.

Whiskey was given when called for on an average of once an hour. About midnight he was given sulphonal gr. xv. Rested but little first night.

Second day treatment. The same as first day but with this difference: at night he was given three (3) c. c. pills, and whiskey about every two hours and occasionally a beer as called for by patient. Patient had a restless night, sleeping only about three hours.

Third day treatment. Same as preceding days, except tonic was given only every four hours, and while patient did not now ask for whiskey he would drink it when proffered him, about every three hours, but complained that he could not "take it well as it made him sick." What was taken he retained, that is—

his nausea did not lead to vomiting. Stomach lavage in all cases when needed.

Fourth day treatment. Same as in preceding days but patient now refused all forms of alcoholic stimulants, and at times had hallucinations. On the 5th day I advised his wife to take him home, which she did, thinking home surroundings would help clear up his mind. On my order she gave him sulphonal gr. xv at 7 p. m., and he slept all night. On the morning of the 6th day he awoke with mind clear and has been so ever since. His general condition has constantly improved up to date and he has not taken a drink in eighteen months; and he tells me that he has never had the slightest desire for alcoholics. He is here to-night.

Mr. E., assistant manager of a Fourth Street store, age 40; a chronic periodical spree, and had to be sent home every week or two to get off a drunken spree. When he came to the Sanatorium in September, 1910, he was so drunk that he had to have help. He had a history of being a hard drinker for fifteen years, and was drinking from one to two quarts of whiskey a day when he was brought to me for treatment.

Treatment the same as in the preceding case and only varied as in every case to suit the demands of each individual patient. For instance: He had lost all desire for drink by the end of the second day and had quit calling for drink and when I found that it made him sick I did not give him any more.

Patient dismissed on the fourth day relieved, and he tells me that he has been attending to business every day for the last twenty months and has never had any desire for alcoholic stimulants of any kind. He is here to-night—ask him.

Mr. V., age 54; manufacturer; referred to me by Dr. Neff. Had drunk since a boy. For fourteen years he had been getting on sprees lasting for weeks at a time. He drank, on an average, about one quart of whiskey daily with many drinks of beer. When on these periodical sprees he always thought some one wanted to harm him—hence, he was always ready to fight.

He came for treatment January 19th. Same treatment was given him and he was dismissed on the fourth day after entering Sanatorium, relieved. He is here to-night and tells me that he has never had, to date, any desire for drink in any form.

Mr. D., former councilman and school trustee. A constant hard-drinker consuming seventy-five drinks a day. He was maudlin drunk when he came for treatment and had been so for so long a time that his friends thought that he was losing his mind.

He was admitted October 20th, 1911, and dismissed October 24th, four days later.

While he was diabetic at time of treatment, he has since gained 12 pounds in flesh and has worked every day and is sober and he says that he has never taken a drink neither has he the least desire for it. His treatment did not differ from the others.

Mr. R., age 44; Central City, Ky. Referred to be by Dr. W. C. White, March 9th, 1912. He had been drinking for thirty years. He had to be hauled home maudlin drunk every few days, but never had delirium. He did not think he could be relieved in five days but came to stay as long as he wanted to, in order to satisfy himself that he was well.

This is the privilege of all patients who come to my Sanatorium, but this man is about the only one who wanted to stay longer than five days.

He stayed nine days, but did not take treatment but four days, after the fifth day he declared that he had no desire whatever for any form of alcoholic stimulants—though before he took the treatment he was spending \$40.00 per month for drink. At his leisure one day he figured he had drank forty barrels of whiskey in the thirty years.

More than eight months ago I mailed letters to every physician in Louisville, New Albany, Jeffersonville and many other cities throughout the State, inviting them to see the treatment given. Some did me the honor to come and see it.

In treating alcoholics, I believe with Hare of Philadelphia, that we have no disease to deal with. Neither do I believe the tendency to consume alcohol to be an inheritance. And with Hare I believe it is a habit, and in many cases a habit that has produced degeneracy that permits the habit to exist.

In treating this class of patients, for convenience sake, I ignore the classifications such as: acute, sub-acute, and chronic alcoholism, as I believe this classification has little bearing on the treatment given or the results obtained, only in very exceptional cases where some chronic organic disease has advanced to its last stage.

The classification I give is, alcoholics with delirium, and alcoholics without delirium. In the delirium type I push the sedative as the case may demand; where we have no delirium no sedative is given, except the tonic mentioned from which I get some sedative effect—enough for such patients; but not a very marked sedative effect do I claim for it.

It is not my object to deal with the etiology, symptomatology and the various types of alcoholism, as time will not permit. Suffice it to say—any Sanatorium of consequence will be sure to get all kinds and all types, from the quiet unassuming to the delirious type.

One interesting point about these patients is the tremendous capacity some of them have

for consuming alcohol. I saw one man drink a quart of whiskey in about 45 minutes, while he was making up his mind to take the treatment. A physician who does not see much drinking or is not constantly with the patient will scarcely believe you when you tell them of the enormous amount some put away and can continue to do so for years, and upon a physical examination show but few signs of the effects of it—usually an enlarged liver, not often cirrhotic, and some slight impairment of the digestive organs, and some patients suffer from insomnia.

In order to obtain the best results, I believe it is absolutely necessary for the patient to be kept under close observation and in an entirely different environment, made possible by placing the patient in a Sanatorium with trained attendant night and day.

When a patient comes to my Sanatorium he is usually in one of three conditions: He may appear to be fairly sober; he may be in a drunken stupor; or he may be delirious. He is assigned to an ordinary room without padded walls. He has an attendant—one capable of handling him without abuse. He remains in this room until he is well. If he wants a drink of whiskey (and usually does) he gets it. Remember, there is nothing so soothing to these fellows as a drink of whiskey. Of course, all the time he is calling for drinks, you can administer your medicine.

Now, coming to the vital question: What advantage has this treatment over the hypodermic method which is practiced by some of the profession? Just this—that it does away completely with the hypodermic needle and its possibility for harm. That it destroys all craving and desire for alcoholic stimulants. It corrects the nervous disorders; restores the appetite, and brings to the patient natural, restful sleep. It eliminates the crib, the padded and barred rooms. We have no such barbarous paraphernalia. It makes it no longer necessary for the patient to remain from three to six weeks in a sanatorium to get sobered up. It is no longer necessary to give hyosine, morphine or bromides hypodermically or otherwise, thereby eliminating the possibility of their habit. Hyosine given to alcoholics is a most dangerous procedure, even in the most skilled hands, and when continued for several days you will find the effect upon the nervous system is such that it will take your patient weeks to recuperate, and it has killed more alcoholics than it has benefited.

If you desire to make it necessary for your patient to remain weeks at your sanatorium, hyosine is the one agent that will do it.

Another dangerous procedure is the use of Turkish baths for hours at a time. These patients come to us over stimulated. Now, to

take these over-stimulated patients and place them in Turkish baths for hours, you make a grave mistake. The patient who comes out of this treatment alive is fortunate.

One potent factor in the treatment, is the trained attendant, and one who is reliable and competent. The patient's comfort must be anticipated. I can not imagine anything more horrible for these unfortunates, than after a debauch they come to and find themselves in straight jackets, or in padded cells, and not a human being in sight for hours; perhaps furnishing for whiskey. Dantes Inferno pictures no more horrible suffering. Don't ever make yourself believe that these inebriates are insane; they are human like you and know much of what goes on. I am sure you will agree with me that the humane way of treatment is the best.

I have relieved, permanently, ninety per cent. of the alcoholics that have come to me for treatment. These men you have seen to-night are living examples. The ten per cent. that is not cured, is that class of degenerates who have no incentive to do right by themselves or their friends and while relieved for the time being, will return to the old scenes of temptation and soon fall a victim again.

Usually when a patient takes this treatment, he leaves the Sanatorium with his nervous system in a normal condition, his appetite completely restored and he sleeps like a child, and with the old craving for booze entirely gone. You can trust him anywhere and not a drop of alcohol will he tamper with for he remembers the dangers of it.

When we stop to think how little medical science has contributed to the treatment of alcoholism, and how the old hypodermic treatment continues with hyoscyne, morphine and other such alkaloidal products, with their harmful effects, it is no wonder that a treatment of this kind creates comment and doubt in the minds of those who are loath to bid farewell to their old friend, the hypodermic syringe. Should you be in doubt, I ask of you to withhold your criticism until you have investigated this treatment and have seen more of its results like you have witnessed here to-night.

Medical science has contributed little new in the treatment of alcoholism in the last quarter of a century, until this treatment was given. Yet it has stepped forth in its mantle of glory and dealt a death blow to small-pox, yellow fever, malaria, diphtheria, typhoid fever, tuberculosis, and other dreaded diseases.

DISCUSSION.

J. Hunter Peak: While I do not treat this class of cases, I happen to know one of the men here to-night and since taking this treatment, I have sat by him at a banquet board, where liquor

was as free as water, and he had his glass turned upside down. I have been in Dr. Stokes' institution a number of times to see patients requiring surgical attention, and have seen him administer the treatment a number of times, although I did not know what it was as it did not concern me.

The essayist mentioned the fact that Dr. Neff had referred several cases to him, and as Dr. Neff is here, I would like to move that he be given the privilege of the floor in order to discuss this report.

C. O. Neff: Two of the men exhibited by Dr. Stokes here to-night are patients of mine, and were referred by me to Dr. Stokes. One of them I have known for about five years, and he was one of the hardest drinkers I have ever seen. At times he would drink until he became unconscious. Twice a week, for six or eight months before he was referred to Dr. Stokes, he would have haematemesis of a very severe type, and he was in bad condition in many other ways. He had palpitation of the heart, which seemed to be of nervous origin, as I could find no evidence of any organic lesion. On one occasion, during the illness of his wife, he drank two quarts of whiskey between seven o'clock one evening and six o'clock the next morning. He has often told me that his bar bill was from five to eight dollars a day.

The other man was also a hard drinker. I have known him a long time, and I have never seen such a change in any one as has taken place in this man.

I did not rise to discuss the treatment of alcoholism, because I do not know any more about it than the average practitioner, and usually refer such cases to the sanitarium for treatment. I was rather forcibly impressed by the results obtained in these two cases, because in cases which I have referred to other institutions, the craving for alcohol was not eliminated, as it seems to have been in these men. In one or two instances patients whom I had referred to sanitarium, after leaving the institution, became intoxicated before they got home. In the cases shown to-night these men were relieved of the desire for alcohol and have remained so up to this time.

Curran Pope: I wish to add only a few words to this discussion. We do not treat these cases at my institution. I know one of the men here to-night; in fact I have treated him, but was never able to do anything with him. I know that he was a very heavy drinker, and that since his recovery he has remained well, because I am physician to a great many of his relatives and in that way I have been able to keep in touch with him.

The treatment which the doctor employs is rather unusual but apparently very satisfactory. Of course, no one can speak definitely of a treatment of which he knows nothing, but he has certainly shown results here to-night, and the testimony of the patients themselves is enough to

make one realize that he is doing good work and should be encouraged in it.

Bernard J. O'Connor: I would like to ask Dr. Stokes just one question; that is, whether he uses any other drugs in connection with his treatment, anything in the whiskey, etc., and, if not, how does he explain the cessation of the desire for alcohol under this treatment.

Edgar W. Stokes, (Closing): Answering Dr. O'Connor's question, I will say that the formula as given really constitutes a bitter tonic and destroys the appetite for alcohol. No other drugs whatever are used. We simply give this tonic until they lose all desire for alcoholics. Once in a while we offer the patient a drink, as a test, to see whether he really cares for it or not, and almost invariably we find they have not the least desire for alcoholic drinks and will sometimes even beg us not to give them any.

I mentioned in the report the treatment employed in delirious cases, and how we put them to sleep. We depend a great deal upon elimination in this treatment, and think it does these patients a great deal of good. We usually give the patient two c.c. pills at night and three the next night. Of course, there are times when this will not produce the desired effect, and the dose is increased. Aside from this, no drugs are given other than those mentioned in the report.

COUNTY SOCIETY REPORTS

Nelson—The Nelson County Medical Society met Wednesday, June, 5th at 11 o'clock A. M. in the office of B. E. Gore.

There were present, J. I. Greenwell, New Haven; H. S. Harned, Boston; Charles McClure, Cox's Creek; J. H. Wells, Fairfield; S. B. Crume, Bloomfield; B. E. Gore, H. E. McKay, S. A. Cox, R. H. Greenwell and Hugh D. Rodman, Bardstons, and Drs. J. C. Mudd and W. T. Barnett of Springfield. The reading of the minutes was dispensed with.

Report of Cases.

H. E. McKay and B. E. Gore presented a man 61 years old whose right arm was caught by a circle saw while at work in a barrel factory on April 10th, last, and all of the muscles for at least two-thirds of the circumference were severed to the bone, three inches below the axilla; also severing the humeral arteries, veins and nerves, cutting off pulsation at the wrist entirely; the contraction of the muscles caused a large ugly gap. The doctors saw him in a few minutes, cleansed wound, ligated the vessels, closed the gap by pressure and took twenty-odd 20-day cat-gut sutures to close the cut. Slight suppuration ensued; no secondary hemorrhage and no unfavorable complications. To-day the wound is entirely healed and the man has a good and useful arm, with yet no wrist pulse, both the ulnar

and the radial arteries seem to be obliterated. So much for conservative surgery.

Charles McClure presented two large fatty tumors, one of which had to be removed from a man's buttock, near the anus, which passed up and compressed the rectum; this was removed under cocaine anaesthesia with considerable pain.

The other was removed from the muscles covering the scapula just where one's suspender passes over the scapula; this was removed under quinine and urea hydrochloride anaesthesia and was painless. In reporting this case Dr. McClure said that in future he would inject the quinia and urea from 10 to 12 hours before he did any cutting; he regards this as an ideal anesthetic in circumcisions.

Essays.

H. D. Rodman read a paper on "Abortion" which he defined as being the expulsion of the contents of the pregnant uterus from conception to the viable period.

H. E. McKay: I think that almost all of our abortions are due to disease of the uterus and its appendages. I use blackhaw as a preventative. In those cases who are in a habit of aborting I put them on black haw or the viburnum compound and keep them on it until the abortive period has passed. I also put her in bed about two weeks before the expected abortion and keep her there until we have passed the time of the former abortion.

Charles McClure: Dr. Rodman has read a good paper and covered the ground thoroughly, and I agree with him that hydramnios often causes abortion. I recently saw a case who was supposed to be about three and a half months pregnant, who was as large as she should be at full term; an abortion came on and there was so much water than everything about the bed was saturated. I believe that there was two or two and a half gallons of water.

S. A. Cox: A prolapsed uterus will hardly ever carry a foetus to full term. Prolapse should be regarded as an important cause of abortion.

B. E. Gore: I have seen three cases of abortion in the last few weeks, two in consultation and one in my own practice. It is not always easy to arrive at the cause of abortion. I do not think that abortions occur as often as some authors state.

H. E. McKay: I do not believe that any kind of tampon should be used as a prophylactic measure. I believe such treatment would cause abortion.

S. B. Crume: While in New York recently I saw a case treated to produce an abortion; the tampon was used and used continuously until the desired effect was obtained. If I wanted to prevent an abortion I would not use any irritant about the os or cervix.

Hugh D. Rodman, in Closing: I am glad to

have elicited some discussion. Discussion is the life of a meeting. I do not expect every one to agree with me, it is by honest difference that we are improved. More is often learned by a few words of discussion by each member than by a lengthy essay.

S. B. Crume read a good paper on "Cerebro-Spinal Meningitis," also reported a case which he had recently treated of that dread disease. Many questions were asked Dr. Crume about the withdrawal of the spinal fluid and the introduction of the serum. In order to answer all Dr. Crume asked one of the doctors present to expose his spine and he demonstrated on this spine this operation, which was very interesting and instructive and was worth a good deal to all who saw it.

The visiting doctors were entertained at dinner at the Newman House by the Bardstown doctors. At the conclusion of the discussion we adjourned, a good meeting to meet again on Wednesday, September 4th, 1912.

HUGH D. RODMAN, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, on Wednesday, June 12, 1912, with the following members present: P. N. Blackerby, O. W. Brown, N. B. Chipman, H. C. Clark, C. H. Kendall, W. A. McKenney, T. C. Nichols, John E. Wilson, J. Ed Wilson, K. B. Woolery.

The meeting was called to order by Vice President, O. W. Brown.

We had a report of clinical cases by some of the different doctors, which were freely discussed by many of the members present.

O. W. Brown read a paper on "Hernia," which was pretty thoroughly discussed.

P. N. Blackerby read a paper on "Myocarditis." This proved to be a very good paper, and it elicited thorough discussion.

This being all of the essayists ready that were present, this closed the papers and their discussion, and as the hour was growing late, a motion to adjourn was entertained by the Chair, and we departed to our various homes to meet again the second Wednesday in next month.

W. A. McKENNEY, Secretary.

Washington—The Washington County Medical Society met in Springfield on June 12th, at 2:30 P. M., with the following physicians present: J. Hunter Peake, of Louisville; McClure, Cox's Creek, Nelson county; J. N. Shelan, Ray, Mudd, M. W. Hyatt, Crume, Hatchett, Barnett and Hopper, of this county. Bernard Asman, of Louisville, was expected but was unable to be present.

J. Hunter Peake, who was to lead the discussion of Dr. Asman's paper, was asked to give us a lecture on any subject he chose. He took for his subject "Misplaced Kidney." He handled it in a way that was most interesting and very instructive. Discussion followed by Drs. She-

han, Hyatt, Hopper, McClure, and by Dr. Ray at some length, and by Dr. Peake in closing.

W. T. Barnett and **W. W. Ray** are on the program for July.

President Crume thanked the visiting physicians for their presence and the part they took in the exercises, and invited them to attend our meetings whenever they can.

J. H. Peake has been with us on several occasions and we are always glad to see him. We always look for something good from him and get it.

J. H. HOPPER, Secretary.

BOOK REVIEWS

A Treatise on Tumors, by Arthur E. Hertzler, M. D., Ph. D., published by Lea & Febiger, Philadelphia-New York, 1912.

This Treatise embodying the experience of many years gained in the operating room and observation of labor, and the information gathered from libraries, combines them in such a way as to be of practical use. It is a competent guide to the recognition of tumors, being extensively illustrated with accurate descriptions of the pathological specimens presented.

The Practitioner in General Medicine, Volume 1, General Medicine, edited by Frank Billings, M. S. and M. D. and J. H. Salisbury, A. M., M. D., Series 1912.

This Volume discusses immunity and vaccine therapy, infectious diseases, including acute anterior poliomyelitis, diseases of the lungs and pleurae, diseases of the circulatory organs, diseases of the arteries, blood, ductless glands and kidney.

Volume 2, edited by John B. Murphy, A. M., M. D., LL.D. This volume deals with anesthesia, new instruments, operative technique, wound healing and pathological interventions, tetanus, tumors, the bones, the face and the mouth, abdominal surgery, taking up incisions, wound closures, drainage, complications, peritonization, the vermiform appendix and pancreas. These two volumes are full of practical up-to-date matter for the use of the busy man.

Diseases of Genito-Urinary Organs and the Kidney. By Robert H. Greene, M. D., Professor of Genito-Urinary Surgery at the Fordham University, New York; and Harlow Brooks, M. D., Assistant Professor of Clinical Medicine, University and Bellevue Medical College. Third Revised Edition. Octavo of 639 pages, 339 illustrations. Philadelphia and London, W. B. Saunders Company, 1912. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

This volume of 630 pages is a complete presentation of the problems arising from the discussion of the Genito-Urinary system. In a prac-

tical way, it deals with endoscopy, cure of instruments, preparation of patient, chemical and microscopic examinations of the urethral evadate, ocular manifestations of renal diseases, tuberculosis, malformations and displacements, surgery of the kidney, conditions of the bladder, tie and epididymis and neuroses of the sexual male and female urethra, prostate gland, testorgans.

Psychotherapy. including the history of the use of mental influence, direct and indirectly, in healing and further principles for the application of energies derived from th mind-to the treatment of diseases, by Jas. J. Walsh, M. D., Ph. D., published by D. Appleton & Company, 1912.

This interesting volume takes up the history of psycho-therapeutics, discussing unconscious psycho-therapeutics, general remedies and suggestions, exaggerations, pseudo-science and mental healing, quackery, and mind cures, nostrums and healing power suggestions, influence of personality, therapeutics and faith cures. Under the head of general psycho-therapeutics, are discussed influences of the mind on the body, brain cells and mental operations, unconscious cerebration, hypnotism and kindred subjects. A section is devoted to special psycho-therapeutics dealing with the digestive tract, cardio therapy, respiratory diseases, psycho-therapeutics of the joint and muscular system, gynecological and obstetric psycho-therapy. Under the general subject of disorders of the psyche are discussed, psychoneurosis, disorders of the mind and disorders of the will.

Differential Diagnosis.—Presented through an Analysis of 385 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Second Edition. Octavo of 764 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$5.50 net.

This well-known work in the second edition which brings it up to the present, scarcely needs comment. Under the heads of regional pains, each pain is made the basis for exhaustive and clear discussion and differentiation of the conditions causing it. Following the same ideas of differentiation, there are discussed convulsions, weakness, cough, vomiting, hematuria, dyspnea, jaundice and nervousness.

"Cyclopedia of American Medical Biography," by Kelly. Volume One and Two make a common and deserve a place in the physician's complete historical review of the best known medical brary.

"The Friends of the Insane," by Baynard Holmes, M. D., Lanet-Clinic Publishing Company press. Price \$1.0.

Physiology.—A manual for students and practitioners by A. E. Guenther, Ph. D., and Theodore C. Gemthier, published by Lea & Febiger, Philadelphia-New York. This is a brief compass of those facts of which medical students should be familiar in order that they may pursue the more advanced courses of the medical curriculum.

Physiology of Faith and Fear, Or, the Mind in Health and Disease, by W. S. Sadler, M. D., published by A. C. McClurg & Co., Chicago.

THE FORUM

TO THE EDITOR:

On June 6th, at Atlantic City, during the meeting of the American Medical Association and following a symposium on anesthesia, the National Society of Anesthetists was organized. Prof. Yandel Henderson of Yale, Chairman of the commission on anesthesia of the A. H. A., occupying the chair, those assembled for the symposium acting as a committee of the whole, proceeded to organize, and elected the following officers for the year 1912-1913:

President, James T. Cwathmey, of New York; Vice Presidents, Charles K. Teter, of Cleveland, F. H. McMeekhan, of Cincinnati, Yandel Henderson, of New Haven; Secretary, William C. Woolsey, 98 Lafayette Ave., Brooklyn; Treasurer, Harold A. Sanders, of Brooklyn.

The constitution and by-laws were ordered to be drawn by the executive committee and submitted to the society at its next meeting for adoption; all names submitted for membership, if qualified in the estimation of the executive committee, shall be considered as charter members if presented within a period of sixty days and accompanied by the levied due of three dollars.

The National Society of Anesthetists in this notice, calls all those who are actively interested in this work, to join its ranks and assist in developing the subject of anesthesia to greater perfection and more uniform safety.

WILLIAM C. WOOLSEY, Secretary.

Petrogen and Creosote Petrogen. Petrogen is essentially a mixture of liquid petrolatum and soap liniment and does not widely differ from the preparation petrolatum saponatum liquidum (petrox, liquid petroxolin) N. F. As an improvement on creosote petrogen the following formula has been proposed for creosote petroxolin for the National Formulary: Creosote 20 Gm., oleic acid 5 Gm. and liquid petroxolin 75 Gm.—(Jour. A. M. A., Feb. 3, 1912, p. 365).

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. X.

BOWLING GREEN, KY., AUGUST 1, 1912

No. 15

EDITORIAL

CRIPPLING THE STATE LABORATORIES.

THE JOURNAL is asked to make an appeal to county societies, health officials and the profession of Kentucky, for such discussion of the matter at future meetings as will insure greater care in the preparation of specimens sent in to the official laboratories for analysis. In spite of the fact that detailed instructions as to the collection, preparation and shipment of the various kinds of specimens accompany all containers sent out from both the Chemical and Bacteriological Laboratories, and the absolute necessity of having the name and address of the sender or patient as the case may be, plainly written on the label, is constantly emphasized, scarcely a day passes that specimens do not come in which it would be a waste of time to examine on account of carelessness in preparation or lack of necessary information on the label. For instance, many specimens, often a dozen or more in a day, are received with no name, address, or postmark even, to indicate the sender, and, a few days later, after the specimen has spoiled or cannot be identified a complaint is made because no report of the examination has been received. Again, diphtheria specimens are sent in tubercle or hookworm containers, or vice versa, and thoughtless and inexperienced people seem to think that anything which will not leak is good enough for water.

Special retainers for all purposes, with full instructions, will be gladly sent without charge to all who apply for them, but, in view of the urgent need for greater care in the collection and preparation of specimens, the State Board of Health asks that the subject

be given a prominent place on the program of coming county society meetings, and that, with the various kinds of containers before them, proper methods of preparation be demonstrated by members who have given special attention to it.

THE ANNUAL SCHOOL FOR COUNTY AND CITY HEALTH OFFICERS.

In the light of the future welfare of the people probably no more important meeting has ever been held in Kentucky than the Annual School for County and City Health Officers, at the Armory Building, Louisville, July 8, 9, and 10. Partly because the law makes attendance compulsory with all necessary expenses paid by the county or municipality, and still more, because of the interest aroused by the program, the health officer of nearly every county and city in the State was present and took part in the proceedings, as did the county judges from many counties.

Hon. Muir Weisinger, Judge of Jefferson County Court, which employs a health officer to devote his entire time to the duties of his office at a salary of \$2,500.00 a year, furnishes him a well equipped laboratory, bacteriologist and stenographer, and appropriates \$10,000 a year for health work in the county outside of the City of Louisville, and which gave the use of the armory and made a special appropriation to meet the local expenses of the School, delivered an eloquent and most appreciative address of welcome, in which he extolled modern health work as exemplified in his own county. Governor Edward J. McDermott presided over and opened the first formal meeting with an able address on "Conservation of Health and Life in Kentucky."

The chemical and bacteriological laboratories and their operators, and those of the City Board of Health of Louisville and of

Jefferson County, were in large part removed to the armory and every phase of their work was demonstrated from hour to hour. The heads of the various departments and members of the State Veterinarian and his assistants and many County and City Health Officers took an active part in the demonstrations often illustrated by stereopticon and moving pictures.

Outside of these health workers and related forces in our own ranks, Professor Wyckliffe Rose, Washington, D. C., Executive Secretary of the Rockefeller Sanitary Commission; Drs. J. N. Hurty and Owen, Indianapolis, respectively Secretary and Assistant Secretary of the Indiana State Board of Health; Dr. J. W. Pettitt, Ottawa, Illinois, Superintendent of the Illinois Tuberculosis Tent Colony; the Kentucky State Tuberculosis Commission; Dr. John McMullen, Washington, D. C., U. S. Public Health and Marine Hospital Service; Professor Fred Mutchler, Bowling Green, Science Teacher in the Western Kentucky Normal School; Hon. Barksdale Hamlet, Frankfort, State Superintendent of Public Instruction; and Mr. John B. McFerran, Louisville, School Expert and Humanitarian, had leading parts on the program in their special lines and rendered invaluable assistance in the instructions and demonstrations.

By unanimous vote, before adjournment, the State Board of Health was requested to arrange the program to cover a six days' course of instruction next year, and all in attendance left with promises of more effective work and better health conditions in their respective jurisdictions as the result of the meeting, no others seeming more impressed with its possibilities than the county judges.

FREE PASTEUR TREATMENT FOR RABIES.

On account of the unusual prevalence of rabies in widely separated sections of the State, coupled with the fact that the preventive treatment for persons bitten by rabid animals in private Pasteur institutes is so costly as to put it beyond the reach of most of those who need it, the State Board of Health sent the State Bacteriologist on to Washington to investigate the methods of its administration and to arrange for the free treatment of any person in Kentucky who applied for it. The U. S. Hygienic Laboratory agreed to furnish the serum without cost, but only upon condition that it would be used in the Laboratory of the Board, and that copies of all records of treatment, and the results, would be filed in Washington. From the time this arrangement was perfected there has never been a time when cases were not under treat-

ment, the cases coming from counties representing every part of the State.

The treatment covers a period of twenty-one days, the injections which are practically painless, being given daily, and are absolutely free alike to rich and poor. The Laboratory people assist patients in finding board, which costs from three to four dollars a week, depending upon the taste of the individual. A number of colored patients have been treated, and for them board is less expensive. The serum is ordered by wire for each patient in order that it may be fresh, and delay can be avoided if the Laboratory can be advised in advance when cases will arrive for treatment, which of course, should be as soon as possible after they are bitten.

Only the brain of rabid animals, preserved in glycerine, without the use of other preservatives or disinfectants of any kind, should be sent in for examination. Often the head, and a few times the entire carcass, of dogs arrive at the Laboratory in such an advanced state of decomposition as to be wholly useless for any scientific purpose. Without careful attention to instructions as to these details, as true in sending in water and all other specimens for analysis, every phase of this life-saving work is hampered or goes for naught.

The rabic work is entirely in the hands of Dr. L. H. South, State Bacteriologist, and all inquiries and correspondence on the subject should be sent to her at Bowling Green.

THE PREVENTION OF BLINDNESS.

At the recent meeting of the American Medical Association at Atlantic City, the attention of the House of Delegates was called to the rapid increase of trachoma and other communicable eye diseases among immigrants arriving in this country, in various centers of population, and especially in the Appalachian Range of Mountains, and the U. S. Public Health and Marine Hospital Service was officially asked to assist state and local boards of health in a broad study of the cause of such diseases and their recent increase with the view of restricting their further spread.

Because of the self-sacrificing work reports of Miss Linda Neville and Dr. J. A. Stucky, both of Lexington, who had visited and held clinics in Knott and Letcher counties, and had brought many patients to the hospitals at Lexington for free treatment, the State Board of Health of Kentucky was advised as to the need for prompt action, and ours was the first State to request the cooperation of the National Government. In response to this, Dr. John McMullen, a distinguished member of the above named Service, who has a large experience with trachoma and similar eye diseases in dealing with immigrants at

the port of New York and in foreign countries, was detailed for duty in Kentucky and came on to deliver an address on the subject before the School for Health Officers in Louisville and to get in touch with the health officials from the most severely affected counties.

After conference with the Board, Drs. Stucky, Duke and others, Dr. McMullen worked out an itinerary to include the counties of Knott, Perry, Leslie, Clay and probably others, of which due notice will be given to the profession and health officials. A report received from Dr. McMullen just as this goes to press gives the information that he has almost completed his investigations in Knott county, finding from 2 per cent to 4.5 per cent, of infections from trachoma in many of the schools, representing every stage of the disease from the acute form to the most hopeless and incurable conditions. Our readers will be kept advised of Dr. McMullen's work as it progresses, and the results of his investigations and his suggestions as to restricting the spread of this and other contagious eye diseases will be given the widest publicity through a special Bulletin of the State Board of Health.

THE MASTER HAND.

The Atlantic City meeting of the American Medical Association was one of the most successful it has ever held. The arrangements were more than unusually complete excepting that the scientific exhibit was sadly misplaced. The members and delegates in attendance all recognized and yielded tribute and admiration to the master hand, which quietly and unobtrusively guided and controlled everything. We have had occasion in these columns to pay tribute frequently to the Editor of the greatest Medical Journal ever published, but there has never been a time when we have so greatly realized his ability to organize and control, feeling as we do that there must be a head to everything. In the far-seeing, wise, counsel-taking hand, who will coordinate the activities and steer the forces of every organization, we feel that the American Medical Association is to be especially congratulated as Dr. Geo. H. Simmons is at the helm. Such power as he wields would be dangerous in the hands of a smaller man or a self-seeker, but he stands out in the limelight as one of the few men who might control the destinies of this great organization, who are at the same time large enough in their conceptions and ideals to control it wisely. It is the greatest pleasure to pay this tribute to this benefactor because his control of the situation at Atlantic City was so quiet that it was unnecessary for him to appear publicly at

any time. The officers selected are a tribute to his wisdom and the measures for future work adopted and indorsed at his suggestion, or with his approval, give promise to a greater effectiveness to the great Association of which he is the real head. We are sure we voice the views of the profession of Kentucky in expressing the wish that Dr. Geo. H. Simmons may long continue in such health and activity as to be able to keep his hand on the throttle and push the whole medical profession forward as only such a man as he can do.

ATLANTIC CITY.

The meeting of the American Medical Association, at Atlantic City, was a great success. Dr. Jacobi's address was unusual in character and of such great economic and moral importance that we take pleasure in reprinting it as the leading article in this issue of our JOURNAL.

A timely treatment of the midwife question is cordially commended to our profession as worthy of most careful consideration. We desire to especially commend to the profession Dr. Jacobi's statement of the superiority of maternal nursing over any artificial nursing. It is with some surprise that we note in the current issue of the *Journal of the American Medical Association*, the statement "Some may, however, be not quite so optimistic as he as to its universal practicability," which statement could only be written by one who has not followed Dr. Jacobi's teachings on this subject through many years of practice. We believe that in practically every case where artificial nursing is resorted to that a mistake, both moral and economic, is made. We are confident that Dr. Jacobi's teachings has the indorsement of practically every physician in Kentucky and we trust that part of this article will be read by their family physician to such mothers as need it.

The scientific program was excellent and the registration of 3598 was an excellent one.

Among other important proceedings of the House of Delegates, was the splendid detailed reports of the Board of Trustees and Council on Medical Education and Health and Public Instruction. The splendid report of the Council on Medical Education merited the unanimous vote of approval extended it. Several important amendments to the By-Laws were adopted. Some of these provided for the recall of any officer or member of a Committee or Council by a two-thirds' vote of the House of Delegates. Rules of procedure for Judicial Council was approved, and this Council was requested to investigate the subject of secret division of fees and the giving of commissions, and the matter of contract practice, and recommend such action by the

House of Delegates and the constituent associations as will remedy existing evils. In the Tri-Annual re-apportionment, Kentucky retains four delegates.

Louisville and Minneapolis were the contenders for the place of the next meeting, and in spite of our most poetic of invitations to Kentucky by Dr. Curran Pope, Minneapolis won out by a close vote. The cordiality of the invitation to Louisville, however, produced a decided effect and it seems apparent that within the next year or two, Kentucky shall have the opportunity of welcoming the parent Association.

THE NATIONAL RED CROSS.

The Editor of this JOURNAL was the Chairman of the Committee to confer with the National Red Cross, and his report will be found on page 1896 of the *Journal of the American Medical Association*, as follows: Amendment to the By-Laws for this Committee was unanimously adopted by this Association and we feel confident that this great work will be undertaken by both the Red Cross and the American Medical Association with renewed zest:

"To the Members of the House of Delegates of the American Medical Association:

Your Committee to Advise with the National Red Cross has the honor of reporting that through its Chairman, three conferences have been held with the officers of that organization—one in New York and two in Washington.

It is a pleasure to testify to the grasp, efficiency and usefulness of the heads of our Red Cross, and to pay a special tribute to its presiding genius, Miss Mabel Boardman.

The first problems presented by the Red Cross to your Committee were, "How may we organize an effective medical force throughout the country which may be available without delay in case of a local disaster?" "When medical services are volunteered to the Red Cross, how may it determine the reputability and competency of the volunteer?"

The opportunity offered to our profession for life-saving work of the highest character seems manifest. If in times of great disaster a wise executive committee of the Red Cross right on the spot is already empowered to act and then report to the general officers at Washington, its work will be far more effective than the present somewhat haphazard method of organization following newspaper or other more or less roundabout notification. The good work of the Red Cross under this system has been due to the genius and initiative of its general officers and it is their desire to diffuse the responsibilities as well as the opportunities for good into a great organiza-

tion actually national that will reach into every nook and corner of the country where disaster may come of such character that it demands more than local assistance. A disaster involving a remote mine in Tennessee or the Dakotas, a railroad wreck in Arizona, a schoolhouse fire in Ohio, a factory holocaust in New York, or a flood in Kansas or Arkansas should have in its own vicinity an organized force ready to spring into active operation instantly and take the initiative in relief work, which is frequently the most important part of the whole Red Cross campaign.

Your committee therefore recommends: (1) that a standing committee of three on Red Cross medical work be constituted by an amendment to our By-Laws, one of whose members shall be appointed by the President on the nomination of the Surgeon-General of the Army, and one on the nomination of the Surgeon-General of the Navy; that the third member of the committee, who shall be its chairman, shall be appointed by the President of the Association and nominated to the Red Cross as the representative of this Association on its Relief Board; (2) that the necessary expenses of this Committee, not to exceed \$500 annually, be paid by the Board of Trustees; (3) that this Committee shall have advisory supervision over state and county committees and shall be empowered to act for the Association in matters involving medical personnel in times of disaster, provided that it shall not be authorized to involve the credit of the Association without express authority of the House of Delegates; (4) that this Association recommend to its constituent associations that they constitute similar committees of which the State Secretary shall be Chairman; and a county committee for each component society of which the District Councilor and the County Secretary shall be ex-officio members; (5) that such state and county committees shall have similar duties to the national committee in their respective jurisdictions, and shall be authorized to cooperate with the lay, nurses, finance and other committees of the National Red Cross in carrying out their functions.

It will, we feel sure, be readily seen that such a vast organization as is contemplated in this report, involving the formation of thousands of locals all over the country by the National Red Cross, will, if successful, be forced to do something to keep its hand in, so to speak, and your Committee has suggested the possibility of such an organization of existing hospitals and nurses' training schools and other public health forces as will best train them as agencies for the protection of life in times of war or national disaster while they are actually responding to the constant calls of the tens of thousands of unnecessary

and preventable deaths in the country each year from preventable diseases, from faulty sanitary and housing conditions, from industrial and other violence. This would involve the formation of a central organization supervising training-schools for nurses with similar functions and powers of moral suasion as our Council on Medical Education. It would involve, eventually, at any rate, the coordination of all those forces working publicly for the prevention and cure of ill health and resulting loss of life. It would involve, in due course of time, such local cooperation with the local authorities and the people as would lead to the establishment in all centers of population, at least in all county seats, of hospitals whose function would not be merely the cure of diseases but which would be real centers from which should emanate everything which could help the people of that community toward right living.

Gentlemen, this may seem idealistic. No ideal can be too high either for the American Medical Association or the National Red Cross which can work to the welfare, health and happiness of the American people in peace or in war. It will involve hard, prolonged work, but the results to be accomplished are so vast that it must be worth while, and American medicine has accomplished too much to turn from any opportunity to do more. Until the profession and people of the United States have at least made its cities and its rural communities as healthy as Colonel Gorgas and his associates have done in pestridden Panama, we have an opportunity which we may not neglect.

Respectfully submitted,

A. T. McCORMACK, Chairman.

CHARLES A. L. REED,

MILES F. PORTER,

H. L. E. JOHNSON.

This report was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

The minutes of the previous meeting were read and approved.

PELLAGRA.

A letter from Dr. C. H. Lavinder, a past assistant surgeon of the United States Public Health and Marine Hospital Public Service, at Savannah, Georgia, is worthy of special attention to everyone interested in the treatment of Pellagrins. The Marine Hospital, at Savannah, Georgia, is receiving and treating, free of charge, a limited number of male pellagrins. Congress has authorized the use of this Hospital for the treatment of a certain number of male pellagrins, all colors and ages, excepting infants, free of all charges except transportation to and from the Hospital.

Under this authority Sergeant-General Blue has directed Dr. Lavinder to admit these cases and several are there at present taking the treatment. A good hospital, and every possible care without expense, is offered these cases. The desire of the Public Health Service is to have a number of cases in their Hospital for scientific observation and treatment. Any physician who has patients who would be interested in this opportunity are requested to correspond with Dr. Lavinder.

KENTUCKY.

In compliance with numerous requests, we are republishing the poetic invitation by Ex-Governor Willson, of Kentucky, to the American Medical Association, to meet in Kentucky:

"Know'st thou the land where the corn-tas-
sels bloom,
Where the mystical cock-tail exhales its per-
fume,
Where the high-balls sparkle with flavor di-
vine
And the 'schooners' sail fast 'neath the shade
of the vine?
Know'st thou that land, that beautiful
land?

Know'st thou the land where the Julep was
born,
Where the mint yields its breast to the spirit
of corn,
Where the ice strikes the glass with a musical
sound
And the straw shrieks aloud, when the bottom
is found?
Know'st thou that land, that beautiful
land?

Hear'st thou the call of the Blue-grass to
thee;
Come over the River, come Southward to
me,
Where a welcome awaits from Kentucky's old
boys,
Oh come to that Southland and taste of her
joys,
Oh come to that land, that beautiful
land.

Know'st not that land? Then thou art un-
lucky;
'Tis gallant, 'tis brave, 'tis hearty Ken-
tucky,
That calls from the River that flows to the
Sea,
Come Southward to meet us, cross over and
see,
Oh come to that land, that beautiful
land."

OPTOMETRY AND THE OPTOMETRISTS.

This is the day of insurgent and insurgency. Abuses, and in some instances crimes against the individual, the state and the nation are being corrected by that greatest and best of policemen, light; light into the dark corners; the light of publicity. That there are many things in every business, in every trade and in every profession to be corrected goes without saying and it seems as though Arno Dosch has selected as his particular point of attack, the abuse within and just without the pale of the medical profession, both in its regular membership and in those guerillas that practice their warfare upon the uninitiated and who prowl, hyena like into the precincts of specialty and legitimate medical work.

In an article, entitled "Eye Troubles and Eye Doctors," Dosch views a subject that is of vast importance to the layman and in my opinion, he takes the right view.

After consideration in a general way the great value of eyesight, he calls attention to the well-established fact, recognized by all competent physicians that accurate vision and properly balanced eyes are essential to not only the comfort, but oftentimes to the mental, nervous and moral makeup of the individual. Ill balanced sight, inaccurate or improperly balanced, oftentimes deprives the individual, not only of his capacity for making a living, but many times hinders him from exercising to the fullest, the capacities inherent in his makeup. For this and sundry other reasons, too many to mention, it behooves the laymen and the medical men as well, to be exceedingly careful as to who and how glasses should be adjusted and the troubles incident thereto corrected.

He draws very nicely a distinction between the optometrist and the eye specialist, who should be a thoroughly well trained physician. That anyone were to attempt to simply fit glasses without a thorough comprehensive and detailed knowledge of the eye, its disease and the influence of health and pathological states upon the eye, is one of those marvels that are only explained by the fact "that there is money in it."

How many cases competent specialists can detail of the damage done by the incompetent, is doubtless difficult to enumerate.

But one must not forget that the medical profession in this specialty is not without its flaws. Untrained physicians, made specialists over night by some few weeks post-graduate course, is hardly the man to whom one should trust his eyesight, and in fact his suggestion, that hereafter State Boards license specialists only after a competent and ex-

haustive examination, would do much to undo the faults of the pseudo-specialist.

His final, conclusive suggestions are excellent, to-wit, that no one have glasses adjusted or their eyes examined save by a graduate physician, who has had thorough training in the *mechanical and pathological* states of the eye and that the patient only permit this examination to be made by men known to possess the necessary qualifications. These are the articles that are helpful to scientific men and scientific medicine and which will in the end drive the optometrist to qualify, if he wishes to follow out this work.

CURRAN POPE.

THE POOR MAN'S LUXURY.

When the thunder vibrates and the lightning flashes in its unguificent display from cloud to cloud; when the windows of heaven are opened and the mighty torrents of water drench the earth, and is gathered into brooklets, rivulets and finally into the majestic rivers of the country, few indeed realize that in plain, simple water, internally and externally, lies a power capable of so much good that it might, with perfect justice, be termed "the poor man's luxury."

Water distributed beneficently upon the surface of the land, not alone stimulates the seed to sprout, to push aside mother earth and luxuriate in the sunshine that grows crops and fills granaries to make a nation rich, but it also possesses the power, when properly used to bring about the same kind of stimulating effect upon the protoplasm of the human body. In all the range of medicine, it possesses the power of meeting more nearly the needs of the healthy and sick organisms than any other one remedial measure known.

While not in the least discrediting their measures and while fully realizing the benefits that may come from the use of chemical means from both the animal and vegetable kingdom, still how few realize that right at hand, in the clear, cold spring, or the more modernized faucet flows an agent that is capable of rejuvenating tissue and maintaining health. It is hard indeed to excel the invigorating power of cold water, especially where applied upon the cutaneous surface under pressure, as in douches, showers, etc. Every well built physique, every trainer, every athlete and every doctor ought to know that cold water is in itself the greatest and best tonic, and that in addition to affording a means to what Wesley has called "next to Godliness," it produces affects that increase vitality.

It is an exhilarating and stimulating bath of the Anglo-Saxon, and in this particular climate and in our strenuous age, it should be

employed by rich and poor alike, and oftentimes in place of the convivial cup or morn-ing "pick-me-up."

Among the interesting psychic attitudes of many human beings, is to be found Cold-Bath-a-Phobia, for in truth, there are few people who have sufficient courage, I might say, moral or physical, to use the cold bath. If the poor man used it oftener, he would pay fewer doctor's bills; he would feel good enough to drink less liquor, he would be able to do his work with more zest and he would, in all likelihood be physically, mentally, nervously, and morally, a better human being for his contact with "nature's own."

CURRAN POPE.

THE NEW OPIUM LAW.

Under official announcements, we are publishing correspondence from the Secretary of the State Board of Pharmacy. It is a pleasure to commend this law and urge its enforcement with our doctors. It prohibits, with large penalties, the sale of opium or opium products by doctors. This applies particularly to morphine. No reputable physician should sell any opium product in quantities, and it is a pleasure to commend the actual enforcement of this law to all of our profession.

A REMARKABLE BANQUET.

The Editor had the privilege of attending a remarkable banquet at Nashville in honor of Dr. J. A. Witherspoon, President-Elect of the American Medical Association. It was remarkable, not only for the excellent arrangements in every way, but as a tribute to this great man by his professional and business associates in Nashville. Looked at in the larger sense, it was as great a tribute to those who gave it as to the distinguished honoree. We feel particularly fortunate in securing a response to the toast "Man's Friend, the Doctor," by Hon. John T. Lelyett. This splendid tribute is worth the reading by every doctor and every doctor's friend in Kentucky.

Mr. Toastmaster, Our Honored Guest, and Gentlemen:

I would be less than sincere if I did not feel and express pride and pleasure in the opportunity given me to-night to add, however slight, a testimonial to our distinguished guest, and incidentally, to his great profession.

Our guest has lived among us many years. He has, by his superior talent, application, good qualities and unselfishness built up with us a great esteem and high character as a physician, and as a man, he has won our love and affection by his kind manliness.

He has, although in the front ranks, and

busy with a large practice, with sufficient gains close at hand, been unselfish enough to step aside to so accomplish himself as to attract the attention and secure the endorsement of the greatest body of physicians and surgeons on earth, the American Medical Association, and in receiving this honor, he has, in turn, reflected honor upon us who to-night represent his state, his city and his home.

It is fitting that a man of his professional eminence should live in Tennessee, and in its capital city, for here we live in the very shadow of the home of the nation's greatest chief, Andrew Jackson. And before the lives of any in this assemblage to-night, this city was the noted rendezvous of men whose fame and deeds have been pictured in the halls of national fame, and in all of the times since her infancy, whether in acts of civic virtue, in professional attainment and achievement, or in the real strife, where the roll of drum inspired to battle array, Nashville has been the pivotal-spot of the great and justly named Volunteer State.

I congratulate our talented guest to-night upon his success. I rejoice in it as a fellow citizen and friend. I congratulate his state and city upon this justly earned triumph, and I congratulate his brother physicians on this stride in the march of this great and progressive profession.

It is a profession which comes close to the bodies, minds and hearts of mankind. It has been nourished and has grown upon the trust and confidence of the world, and deservedly so.

From the beginning, doctors of medicine, of learning and of law were ever seekers after truth, and they have in the medical profession had the courage to stand and fight for its maintenance. In my opinion, this quest is the highest attainable in human life.

There were doctors learned in the law and perhaps in medicine, who talked with Christ in the Temple in his twelfth year. They have never been afraid to try to find out. They have fought ignorance and knavery since the days of amulets, charms and witchcraft, and from the dens of iniquity and quackery they have rescued by honesty and courage, millions of bodies and souls blinded by fear and superstition.

They have not been afraid to take up arms in war for truth, honor, or the glory of a righteous cause; and, more than that, they have by thousands and thousands stood unarmed in the field hospitals when their country was engaged in battle, giving up their lives to shrieking shells and other engines of death in a noble effort to allay suffering and save the lives of stricken humanity.

They have not feared to leave homes, wives and children to go into those stricken coun-

tries where grim pestilence hung like a black pall, and where the air was charged with the poison of death, to minister with loving hands and smiling faces to those upon whom this grim monster had laid its chilling touch.

They have not feared to take desperate chances in remote spots, removed from advantage and aid, and with the courage of Spartans, stake their lives and reputations upon single judgment in an honest effort to relieve mankind.

It has been a broad and generous profession. Doctors have for all times submitted in kindliness to the impositions on them by their patients as the general advisor in families, in serious matters outside of their profession, without remuneration or reward, bringing by their intelligent advice and aid much success and prosperity to trusting and admiring patients. This has broadened him, made him kind and tolerant. It has taught him to bear the burden of diversified responsibility and given him a veritable storehouse of general information.

It has been necessary for him to learn that it is a life of sacrifice, for in the necessity of doing for others, he has learned that he has little time to do for himself.

Like all great professions, the medical profession has been the target of much criticism which is modified and tempered in just re-creation by the fact that all who have criticized him come finally to appeal to his judgment and honor in the hour of greatest need, and also by the evidence of our hearts which refute this distrust when we confide to him not only our lives, but more importantly the lives and welfare of our beloved ones.

He is the recipient of our closest confidences. We lay bare to him the secrets of our poor bodies, and the sordid story of our abuses of nature and her great and good gifts to us; and while we can remember that there was a traitor among the Apostles, and that the most brilliant and attractive soldier of Washington's day made of his name by treachery an epithet of shame, yet we cannot recall to mind a great doctor who has stained his name or that of his profession, by betraying a secret sorrow or misfortune confided to him by trusting patient.

He carries his secrets to that mausoleum to which he, like us, must finally come. He has ever been free and gracious with his talents and skill and it is of common knowledge that it is not necessary through his kindness that the poor and needy should suffer for medical aid.

It is a part of the ethics of this great profession that in time of need and emergency its skill is offered free to suffering mankind.

It is of record in thousands of notable instances that by his application and genius he

has discovered wonderful remedies and cures which he has refused to monopolize and has turned over without charge to the free use of the world.

He is mankind's friend from the cradle to the grave. He is the first confidant and friend of the young mother in the initial mysterious pain and woe which racks her body and disturbs and alarms her innocent mind. His is the hand and his the voice which encourages and sustains her through the awful stages of pain necessary to bring mankind to life. He is the first with tender hand and loving sympathy in assuring the breathing infant, and he deposits it as a living charge with her who has risked her life for it, and who in its birth by suffering has joined, through agony, the angels whose very name is a touch of reverence, and whose attributes are tenderly inscribed in the hearts of every honest man in the sweetest of English words, "Mother."

He never turns back when he has enlisted for the sick. He faces poverty, infection, vice, with the same intrepid spirit because in the great faith of his heart he believes the curing of men is a charge from God.

He rides when the world sleeps, and he must go when weary or sick, but he must go, with a brave heart and smiling face because there is no sulking tent for the doctor. He must stand the test of courage; he must close the eyes of the dead and go on and on to the bedside of the living, leaving with the dead the sting of defeat and the infection of sorrow, for the living must have no hint of this. The garb of mourning must not be carried into the sick room. It must be quickly changed at whatever cost, for the patient's good, to that of hope and cheer.

His private interests must be foregone for it is the law of his profession that the call of humanity is supreme, and he must lay aside pleasure, joy and rest to answer the imperative call of the duty which he has assumed when he entered the ranks of this great profession. He has trying times in foregoing what he likes, because it is assumed in his undertaking to get these things for others that he waives them for himself and his interests.

In his life he must face the fact that he is credited with success as his duty only, and condemned without stint for failing. He must have sympathy for all, and patience with his sick, because the patient demands the one and success requires the other. He must tell the truth, and the great doctor would as soon desecrate the Cross as to deceive a trusting patient with a lie.

His kindness gained from habit and patience makes him the beloved of the children in the household, and the mainstay of the

mother whose anxious heart is searching for news or relief for her suffering sick.

He administers to the body and the mind. He treats the millionaire and the pauper, and he does his best for both. He must restrain his private sympathy in the agonizing scenes which come before him, of family suffering, because he needs an iron nerve in the pursuit of his work.

He puts humanity above compensation, and his firm voice is listened to with respect even in indigent institutions where reason is overthrown and mentality shattered. When the prosperous and even the poor have earned their rest by a day of toil, if you could look down from a high eminence into the darkness, you could see his vehicles as they flash through the night to bring hope through darkness, wind, rain, and snow to some poor sufferer whose fevered groans are changed to sighs of relief at his coming.

Away with scoffers at this work!

Away with cruel jests and slander!

It is the mother endowed by God who trusts him over her most precious possession, her child in illness and pain.

It is the child whom God has given the prescience to judge of truth that lifts up its little hands to him and smiles from a bed of anguish.

If his benefactions to man could be collected and erected as a tower to his life and work, it would put to shame the Tower of Babel, and make mere playhouses of the tallest of modern structures.

And in this contemplation, and with this view, I rejoice that we have one among us to-night who is a worthy subject of this life picture, and who has done and is doing all of this to such an extent that his great brothers in the Nation have seen fit to crown him with an imperishable crown of their admiration and esteem.

Dangers from Camphor.—Happich injected camphor into rabbits and guinea-pigs and the results confirmed those reported in the literature in regard to the great difference in the effects of camphor when it is inhaled or injected into an artery or vein. He ascribes the difference to the neutralizing of the injurious influences of the camphor by glycuronic acid which is generated fresh in the pulmonary circulation by the combination of oxygen and sugar. When the camphor is to be injected into a vein or artery, the individual condition in regard to the presence of adequate amounts of oxygen and of sugar must be estimated. When either of these is known to be abnormally diminished, then the use of camphor should be restricted. This applies especially, he says, to patients in inanition, the insane, cancer patients, typhoid convalescents.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

REFORM IN MEDICINES.

The proposed Royal Commission on Quackery. There seems to be little doubt that the propaganda against "patent medicines" in Great Britain has reached the place where a royal commission will be appointed to investigate the nostrum evil. While the recommendation for the appointment of such a commission has been fathered by the British medical profession it is probable that if the investigation is broad and impartial, the medical profession of Great Britain will not be held entirely blameless for the very evil it deploras. This for the reason that, although willing to condemn the use of secret medicines by the public, it has not kept its own skirts clean as is shown by the free scope which nostrum advertising enjoys in first class British medical journals. The British medical profession will find difficulty in justifying its position on the nostrum question. Its past attitude will do much to offset the good that such a royal commission might otherwise accomplish.—(Jour. A. M. A., Feb. 3, 1912, p. 349).

Duffy's Malt Whiskey advertisement. Certain newspapers are carrying advertisements which claim "Duffy's Pure Malt Whiskey Cures Consumption," "The greatest known heart tonic," "It stimulates the blood," "Cures asthma."

What do you think of newspapers that will sell advertising space to such a fraud as the Duffy Malt Whiskey concern? What do you think of medical journals that will carry advertisements for the same fraud? The following carry Duffy's Malt Whiskey advertisements: Buffalo Medical Journal, Massachusetts Medical Journal, Medical Standard, Medical Summary and Medical Brief. Most of these are mere advertising sheets, the Buffalo Medical Journal being a notable exception, which exist because phy-

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sicians patronize them. As to the public one medical journal looks much like any other medical journal, the profession finds it difficult to persuade law-makers that its fight against nostrums is in the public interest.—(Jour. A. M. A., Feb. 3, 1912, p. 350).

Honors are Even. Among those who shared in the honors distributed on the occasion of the Dunbar ceremony were two British "patent medicine" exploiters, who have made their millions from the gullible sick, and who have now received the order of knighthood from King George. This reminds one of that genial personage whose relationship to the Duffy's Malt Whiskey outfit and the canning company that sold short-weight products has often been the subject of comment and whom a free people elected to the vice-presidency of the United States.—(Jour. A. M. A., Feb. 3, 1912, p. 351).

Oleum Telesphoros. Albert P. Mathews, Ph. D., professor of physiologic chemistry in the University of Chicago, dissects the much overworked scheme on the part of manufacturers of proprietary remedies of investing very ordinary substances with most extraordinary properties—and names. He points out that this proprietary, which is recommended for use in abdominal surgery for the purpose of preventing adhesions, appears to be "oleo oil" or "oleomargarine". Sarcastically he suggests: "The statement that, being derived from the omentum and appendices epiploicae, it is hence 'no more than natural that one of its greatest spheres of usefulness should develop in its application to abdominal surgery,' will carry great weight with those who believe that kidney beans are panacea for kidney disease and that lunacy is due to the moon."—(Jour. A. M. A., Feb. 3, 1912, p. 363).

Industrial Inhalation of Flour Dust.—Ferranini found that the dust inhaled was apparently digested and absorbed and thus did no harm as a rule. But when the dust was in excessive amounts or the air passages were diseased, the dust accumulated unmodified in the bronchi and alveoles. His research was carried on in the rooms where the flour was put up in bags, and the vital capacity of some of the workers there was found much reduced from this obstruction of parts of the lower air passages, when the natural conditions of digestion of the inhaled dust are suspended.

Bladder Papilloma with Ureter Calculus for Nucleus.—After removal of part of the papilloma at three sittings, the patient passed an oxalate stone and all the pains which had tormented her for three years ceased at once. The unsuspected stone had been impacted in the ureter mouth and the irrigation from it had induced the papillomatous growth over it.

OFFICIAL ANNOUNCEMENTS

DRUGGISTS' NARCOTIC LAW.

Frankfort, July 11, 1912.

To the Editor:

I am enclosing you a copy of the Narcotic Law. The Board of Pharmacy circularized the druggists of the State on the subject, and while there are still some who seek to evade the requirements of the law as a whole the druggists are making a determined stand for its enforcement. We are sure that the entire best elements of both professions will solidly uphold the statute.

The trouble has been—or one trouble is—as our inspector has found, that some druggists will supply themselves with whole books of ready-written prescriptions for Morphine. It will be the policy of this Board to prosecute any druggist indulging in this practice after he has been warned that it is regarded simply as an evasion of the law.

Yours truly,
J. W. GAYLE.

AN ACT TO REGULATE THE SALE OF OPIUM OR ITS ALKALOIDAL SALTS OR THEIR DERIVATIVES, OR ANY ADMIXTURE THEREOF.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

Section One. Opium or its alkaloidal salts or their derivatives, or any admixture containing opium or its alkaloidal salts or their derivatives, shall be sold or dispensed only by a registered pharmacist upon the original written, dated and signed prescription of a legally licensed physician or dentist or veterinary surgeon; and only one sale shall be made on said prescription, and each such prescription shall state upon its face the quantity of said opium, its alkaloidal salts and their derivatives, also the name of the patient and the date said prescription is filed. And opium or its alkaloidal salts or their derivatives, or any admixture containing opium or its alkaloidal salts or their derivatives, shall be sold at wholesale only to registered pharmacists, legally qualified physicians, dentists, and veterinary surgeons. Provided, however, that any preparation, patent, proprietary or otherwise containing not more than two grains of opium or one-fourth of a grain of its alkaloidal salts or their derivatives to the ounce, or admixture of ipecac and opium commonly known as Dover's Powder, or the anti-spasmodic mixtures of the National Formulary official at the time of sale, or lotions, liniments, suppositories, ointments, and plasters, plainly labeled "For External Use Only," may be sold or dispensed by registered pharmacists without any prescription.

Any registered pharmacist, legally licensed physician, dentist, or veterinary surgeon, or any person not a registered pharmacist; who shall prescribe for, procure, or sell, or dispense to any person opium or its alkaloidal salts or their derivatives, or any admixture containing opium or its alkaloidal salts or their derivatives, or otherwise deal in the same for any purpose other than for the legitimate use as herein provided, shall thereby render himself amenable to the penalties as in this act provided. And provided further that the provisions of this section shall not apply to the sales made by wholesale druggists to each other or to registered pharmacists or to legally licensed physicians, dentists or veterinary surgeons, or to hospitals, sanatoriums, colleges, public, and scientific institutions, nor to sales made to manufacturers of proprietary or pharmaceutical preparations for use in the manufacture of such preparations, nor to the sale at wholesale to general merchants or at retail by general merchants of patent or proprietary medicines containing not more than two grains of opium or one-fourth grain of morphine, or one-fourth grain heroin or three-fourths grain of codeine in one ounce. Any person failing to comply with the requirements of this section shall be deemed guilty of a misdemeanor and upon conviction shall pay a fine of not less than twenty nor more than one hundred dollars.

Section Three. All acts and parts of acts in conflict with this act are hereby repealed.

(Signed) CLAUDE B. TERRILL,

Speaker of the House of Representatives.

EDWARD J. McDERMOTT,

President of the Senate.

Approved March, 14th, 1912.

(Signed) JAMES B. McCREARY,

Governor.

House Bill Number 203 Originated in the House of Representatives.

Attest: JAMES E. STONE,

Chief Clerk, H. R.

RESOLUTION UNANIMOUSLY ADOPTED AT THE 35TH ANNUAL MEETING OF THE KENTUCKY PHARMACEUTICAL ASSOCIATION.

WHEREAS the medical and pharmaceutical professions are two distinct and separate callings, each being dependent upon the other for its highest and ultimate success—the duty of the physicians being to diagnose and prescribe, while that of the pharmacist is to compound and dispense; and

WHEREAS, the recently enacted narcotic law prohibits the sale of opium, its alkaloidal

salts or their derivatives, and preparations containing them, except upon the original written prescription of a legally qualified physician, said act specifically providing that:

“Any registered pharmacist, legally licensed physician, dentist, or veterinary surgeon, or any person not a registered pharmacist, licensed physician, dentist, or veterinary surgeon, who shall prescribe for, procure for, sell or dispense to any person opium or its alkaloidal salts or their derivatives, or any mixture containing salts or their derivatives or any admixture containing opium or its alkaloidal salts or their derivatives, or otherwise deal in same for any purpose other than for the legitimate use as herein provided, shall render himself amenable to the penalties as in this act provided”; and

WHEREAS, the Kentucky Board of Pharmacy is advised that a number of physicians sell and furnish these habit-forming narcotics indiscriminately to the public, thus defeating and frustrating the very purpose and intent of the law, and

WHEREAS the Court of Appeals of Kentucky has decided that a physician “cannot sell drugs indiscriminately to persons calling for same, nor compound and sell them indiscriminately to all who may call for same,” and

WHEREAS the Kentucky Pharmaceutical Association has the greatest respect for and confidence in the Kentucky Board of Health in maintaining the ethics of its profession and otherwise supporting its high and beneficent ideals—said Board having endorsed and urged the passage of the Narcotic Law; therefore be it

RESOLVED, that the Kentucky Pharmaceutical Association, assembled in its 35th annual meeting petition the Kentucky State Board of Health to circularize every physician in the State of Kentucky that it is unethical, unprofessional and unlawful for any physician to sell opium, morphine, laudanum, heroin, codeine, or other habit-forming narcotics to the public.”

A copy; attest

J. W. GAYLE,

Secretary Kentucky Pharmaceutical Association.

Prophylaxis of Scarlet Fever.—Drigalski urges that the medical inspectors of schools should keep a special oversight of children recently recovered from scarlet fever. He found nephritis in thirty-five children who had apparently entirely recovered, among the 1,102 scarlet-fever children at Halle during the last four years. The nephritis was found almost invariably in children who had had no or very brief medical care.

ORIGINAL ARTICLES

THE BEST MEANS OF COMBATING INFANT MORTALITY.*

By ABRAHAM JACOBI, M. D., New York.

(PRESIDENT AMERICAN MEDICAL ASSOCIATION)

My principal duty and intense pleasure is to tender my thanks to the House of Delegates which selected me for the highest honor in the gift of the medical profession of America, and to my colleagues of all the fifty states who were good enough to approve of its choice. Nor am I under less obligation for their attendance on this occasion to such citizens, men and women, as by their presence here exhibit their interest in things medical and socio-political.

My everlasting gratitude is due for the mode in which this great honor was conferred on me. Being duly aware of the small measure of my merits, I was overjoyed to have reason to believe that I owed my election to my lack of efforts to secure it. My democratic training and the gentlemanly nature of thirty-five thousand members of the American Medical Association, like the principal citizens of all parties, resent electioneering importunities and abhor the humiliation and demoralization caused by gesticulating and shouting candidates for office and honor. I have the confidence that if there be in this or any other cultured assembly anybody looking for the highest office for the sake of power and preferment only, he will be deservedly disappointed. Whoever *sets out* to be the first, let him be the last. There is only one thing that is and must forever remain first—that is the medical profession of America, as represented in this American Medical Association, and its object, which in all its aims is only one and indivisible. That one and inseparable object is to promote the art and science of medicine, to unite into one compact organization the medical profession of the United States for the purpose of fostering the growth and the diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of just medical laws, of enlightening and directing public opinion in regard to the broad problems of hygiene, and of representing to the world the practical accomplishments of scientific medicine.

With all this, my professional friends are

conversant. I want to impress it, however, on our guests, lay friends both present and absent, for I want them to understand from the very wording of the constitution of the American Medical Association that their interests and ours are closely related.

In order to be powerful and influential, you must not only be wise but numerous. In last year's official report you were told that it was not prudent to increase our number. In fact, you are 35,000, and the largest medical association of the world. But please remember that yours is also the largest country of the world. There are 100,000 medical men besides us, with the same rights to enter and the same duties to perform. We have been told that reasons of finance are among those which should restrict our number. I appeal to you and to those 100,000 outside. A big bank account appeals to our treasury, but glittering gold never saved a country nor a soul. If you have money, it is yours to spend as you have made it. See to it that your House of Delegates spends it in increasing, and consolidating, and strengthening your Association. Our colleagues in the vast country want to be invited; then they will come in. They must learn what we are, and where their interests are—and the interests of the public—from better sources than the hordes of irregular manufacturers and the "freedomers" whose bitter attacks convey what knowledge many millions are permitted to have of the American Medical Association. Let the people understand the meaning of the American Medical Association and its doctors through our doings, and not through the scurrilous lies of our and the people's enemies. My hope is for an annual increase of thousands of members. Multiply and be fertile. Stand still awhile, and you invite decline.

It is by vast numbers only that our profession will ever attain its legitimate influence in politics and in society, and such beneficent power as Socrates, Descartes, Kant and Gladstone claimed for it. The proclamation of a great principle may impress many philosophic minds, but its realization demands the labor of the enlightened democratic masses. That is why from this exalted position of mine I beg to contribute a share to the discussion of a subject which has enjoyed an important place in the best brains and the warmest hearts of our enlightened and philanthropic era. I allude to the great mortality of the infant, and the numerous efforts to combat it. You are acquainted with them all. Many fair results have been accomplished; to add to them, is my ambition. For infants must not be born merely to be sick, or to die.

The Committee for the Reduction of Infant Mortality of the New York Milk Committee

*President's address before the American Medical Association, at the Sixty-Third Annual Session, at Atlantic City, June, 1912.

has made an arrangement with the Russell Sage Foundation which will furnish a nurse who will look after a thousand pregnant women, with a view to enable them to bear infants with *improved resistance*. The mother will be provided for in case she is overworked. Which one of the poor is not overworked?

According to the Milk Committee, and other authorities, 17 per cent. of infant deaths are caused by congenital troubles. One-third of all of them occur before the first month has passed. The great remedies are recommended. One is that no midwife be allowed to handle any of these cases; the other is that after confinement rest be provided for the mothers, and that the children be referred to milk stations. There is no worthier organization than that committee. What it sets out to do, it performs. It cannot help being restricted to charity so long as one-half of us is condemned to ask and take it, and the other obliged to give and teach. The latter is probably the most valuable performance of the committee. As its activities, like those of its kind all over the country, are meant to be thoroughly altruistic, it is entitled both to praise and to criticism. I hope it will appreciate the former and make use of the latter.

Look at that program: first, no midwife for any of the thousand mothers. You ask, "but who?" Second, the Milk Station for the child because the charitable people want rest provided for the mothers, *at the expense of the baby*. If that be a good program for one thousand women and one thousand babies, if that be the best that can be invented or discovered for the one thousand lucky enough to fall into the hands of charity, what is to be done with, or for, or against those millions beyond the reach of the Sage Foundation? But you suggest, these one thousand mothers and babies are to serve as object-lessons only, to be imitated by the millions. The least, then, we must hope and work for, is that the millions of women to be confined and the millions of babies to be born now and in the future, should participate in the same benefaction which is promised a few. The universal object is to save and raise babies. My program is different, inasmuch as it suggests addition and changes.

If 17 per cent. of infant deaths are caused by congenital troubles, study these congenital troubles and obviate them. The baby's life and pathology begin nine months before its birth.

If one-third occur in the first month, study and combat that first month, and the indications arriving during and after labor.

Your dealings are not with children but with infants; not with infants only but with the new-born that is just terminating its em-

bryonal and fetal evolution and expects to be treated like a new-born human animal and not like a calf.

No midwife is to handle the case; indeed no midwife *will* handle any of your cases for you have none, with rare exceptions. It is proper attendance, however, which society owes to the woman and the newly-born, as a duty to them and to itself. They are valuable assets, both of them. Unless *that* be granted, no discussion is competent.

In one of the programs to relieve the coming child and the struggling mother, I read the demands of absolute rest for at least four weeks before and six to eight weeks after confinement; nursing and feeding, both gratuitous when required; and hospitals for the illegitimate and—when needed—the legitimate confinements.

By the Milk Committee, satisfactory *rest* is wanted for the mother. That means that she did not have it in time, before or after, the baby came. If rest means a long rest in bed, and milk station and no breast-feeding, you deprive her of her most important woman's privilege and office in life after child-bearing, and of the facility of getting well radically and physiologically. For without nursing the breast is liable to become atrophic and the uterus subinvolved. And the infant? Well, the infant, to give "rest" to the mother, is deposited on the altar of a milk station.

I shall be as brief as possible, for I do not believe that the speaker should have all the fun at the expense of his audience. On the other hand, I want to say my own things in my own way—perhaps taught by Jonathan Swift, who preferred to express his opinions "for the amelioration of his hearers, more than for their entertainment."

What the *world* wants is healthy babies. What the *baby* wants is full health and weight; that means a competent mother, sufficiently fed to have a quiet night, free from excessive labor through the day, exempt from a local curable disease that may interfere with the development of the child within her or undermine her well-being, her nursing qualities, and future pelvic and general health. What the *mother* wants is what she has a right to expect, as a reward for the service she renders to mankind in the shape of a healthy baby: a place as healthy as the best hospital without disrupting the family. Modern society is built up on the family, the crude teachings of anarchial and a few early socialistic doctrines notwithstanding. No woman will consent to being taken to a hospital unless desperate need compels her to go. To tell a woman she may die unless she go is a cruel sentence. Society is beginning to appreciate that it owes human beings a human dwelling-place, with air enough to breathe in.

If you build houses unfit to breathe in, you steal air which is common property. What *society* wants is men and women citizens. But in order to be able to rely on their cooperative functions, it must see to it that in its book of ethics the term of charity is supplanted by responsibility. It is useless to call that socialism or communism. It is the substratum of every religion and every humanistic philosophy. I like to avoid the term socialism and its alleged dangers, but only by abolishing the social causes engendering them.

Poets have told mankind that once, in the best olden times, the world was a garden, and they want it to become so again: statesmen—not politicians—have exerted themselves to disseminate prosperity and affluence; great physicians have looked for means to ward off disease and prolong an enjoyable life; jurists have endeavored to make the globe habitable by locking up or killing criminals, or the hopeless and dangerous insane. They all deal with those who are alive and, justly or wrongly, in possession of the surface of the earth. We are expected to deal with the present only, and to fight the evils which seem to be uncontrollable now and in the near future. Is there no way to prevent those who are born into this world from becoming sickly both physically and mentally? It seems almost impossible as long as the riches provided by this world are accessible to a part of the living only. The resources for prevention or cure are inaccessible to many—sometimes even to a majority. That is why it has become an indispensable suggestion that only a certain number of babies should be born into the world. As long as not infrequently even the well-to-do limit the number of their offspring, the advice to the poor—or those to whom the raising of a large family is worse than merely difficult—to limit the number of children, even the healthy ones, is perhaps more than merely exensible.

I often learn that an American family has had ten children, but only three or four survived. Before the dead ones succumbed they were a source of expense, poverty and morbidity to the few survivors. For the interest of the latter and the health of the community at large, they had better not have been born.

Theoretically and practically the addition of unhealthy, sickly, sick and contagious children is a misfortune to the newcomer, to his parents, and to society. Therefore a clean bill of health should precede matrimony. The clergymen who refuse to marry couples without it are good citizens, and the health departments are bound to see to it that contagious diseases, mainly sexual diseases, should be reported, watched, and cured. Nor is this all: Hereditary influences propagate epilepsy, idiocy, cretinism. Such persons

must not be permitted to propagate their ailments.

Now we build asylums for the diseased, neuropathies, and drunkards; nurseries and schools for epileptics,cretins, and idiots; sanatoriums for incipient tuberculosis, and refuges—still too few—for the dying consumptives, withal conscious of the fact that our only hope of finally exterminating tuberculosis lies in the perfect but comfortable isolation of hopelessly advanced cases. Surely we try to cure and prevent. Do we not begin at the wrong end? Consumptives, and epileptics, and semi-idiots are permitted to propagate their own curse, both what is called legitimately and illegitimately. Human society should have pity on itself and its future. The propagation of its degenerates, and imbecile, and criminal should be prevented. We have no positive laws yet for the syphilitic and gonorrheic who ruin a woman's life, deteriorate her offspring—if she have any—and impair the human race. We have come to this: that half of us are obliged to watch and nurse, and support the other half, many of whom should never have been born. In morals and in money, the degenerate are an expensive detriment. The only protection for the nation, for mankind, is to assure a healthy, uncontaminated progeny. Strict laws are required to accomplish that: such laws as will be hated by the epileptic, the consumptive, the syphilitic, and the vicious. No law ever suited the degenerates against whom it was passed, and it is unfortunate that while disease and incompetency and vice are to a high degree hereditary and contagious, moral health and virtue are not so to the same degree. Now those for whom the responsibility of the state does not exist are exactly those who are most entitled to it—the newly born.

Altogether, babies have a strenuous time of it, not only after birth. Heredity, degeneracy or incompetency is often caused by social influences. Financial temptations or necessity make women select not the strong and healthy men, but the old and rich. Their children are having less and less vigorous offspring. Rich and profligate boys spend their sexual powers on prostitutes and save little for possible babies. The lack of children in American families is not always due to voluntary abstinence. Thus the future of the American population has to rely on the offspring of the immigrants, and the American type of the next century will not be much influenced by those whose ancestors came on the Mayflower. Modern industry reduces the vigor and vitality of men, and woman and child labor exhausts the mothers and fathers of the future and present generations. Millions of men are prevented from contracting a marriage by pecuniary want and the im-

possibility of satisfying their sexual hunger except with prostitutes. That is true not only with regard to factory hands, clerks, and employees generally, but to the picked men of the people. Army and navy, the millions of soldiers and marines of all the nations of the globe, whom we are told by our self-styled leaders to imitate, withdraw the vigorous men from natural modes of living and labor and propagation, and prevent them from marrying in time; and wars, the cynosures of our coarse politicians who take the place that should be filled by statesmen, kill and cripple and deteriorate the best muscle of the land and tempt them into perdition. Only the "weaklings" are left—and their offspring! It is sad to contemplate the short-sightedness of our loudmouthed leaders and their heelers.

The history of the newly born is pictured on their bodies. Pinard weighed numerous new-born babies. Those born in poverty were 10 per cent. less in weight than the others. Many were premature, their mothers injured and sick afterward, and without milk. Of that class, from three to four times as many die when at home as when in a well-regulated and well-fed hospital. Their subinvolved uteri and parametritis are very common occurrences and are the sources of lifelong invalidism and treatment. Those few are fortunate who need not complain like the woman healed by Jesus, who had suffered all her life from her illness and from the physicians. Those are not so fortunate who are treated according to the last magazines' academic discussions demanding an early day for getting up. A woman of the million, permitted or ordered out of bed to work, is the pivot of her household or her small farm or shop, or the live part of her lifeless factory machine. She is not like one of your first class paying hospital appendicitis patients who may be ordered out of bed for a half hour or a few hours daily, and will not be harmed thereby. She will continue to convalesce when she returns home. But the woman of the middle class or the poor who is told or permitted to rise early from an appendiceal wound, a uterine wound, or after confinement will add to her endometritis, her phlegmon, and her adhesions. All that is why even apparently simple questions of medicine will never be answered without the consideration of social questions, and medicine must more and more become the guide in the solving of social problems.

A decided physical inferiority at birth is a common occurrence. Ballantyne experienced in the Fulham Infirmary as high a percentage as 21.9. They are called unfit, when born of overworked, underfed, and neglected women. Their number is much smaller and very trifling when their mothers, when poor, are looked after long before the uterine life is term-

inated or when circumstances, financial or sanitary, are more favorable.

Many premature, feeble, thin babies of unpromising weight may be saved when there is ample care, such as a midwife will more readily give than a doctor. If that be absent, the baby's life is endangered. Is salvation worth while? Who can tell, unless you try? Kant, Goethe, Hehnholz were puny waifs, whose lives were despaired of. But they have furnished elements of culture to the world of which we might have been deprived if they had been without the midwife's care and close attention. Luetens is said to have been 5 1-2 inches long. He died when 80 years old. He wrote eighty books, not many of them poor. That is an achievement, though not always pardonable, or even laudable. There are more men 80 years old, but they are not all guilty of writing eighty books.

Hard labor up to confinement interferes with the life or the health of the fetus and the new-born. The least that can be done for the mother is a reduction of working hours pregnancy, and protracted rest after confinement. The woman's worst occupation is that with metals, mainly lead. Their percentage of premature births and miscarriages was 53.6; while those with other work furnished another sufficiently formidable number, viz., 17.2. Lead, mercury, phosphorus, copper, iodine, aniline, and nicotine have been found in the amniotic liquor and in the fetal organism.¹ The indication is clear; less work, less hours, no directly unsanitary occupation, several months' absolute rest after confinement. The living result will be harder and heavier, and more resistant babies.²

When the baby is born, it wants many things; among others air and food, mostly food. Maternal milk is the only safe nutrient for the little stranger. Its quality is not much influenced by emotions, cares, worries; occasionally, only, by medicines taken by the mother, or rarely by her average food. Its quality is only temporarily altered by menstruation, and never causes a change that justifies the interposition of artificial feeding. The daily quantity is rarely less than a quart. Maternal affection, the wish to nurse, the act of suckling increases the quantity. There is no such thing as absolute absence of milk secretion. Essential alterations in the articles consumed by the nursing woman are not demanded. As her appetite is mostly increased, she is entitled to so much more than her average consumption as is required by the one or two pounds needed by her baby. She may eat and drink what she digests and was used to; she may perform her duties, attend to her labors—even some factory work—and fill her time as her station in life suggests. There is no reason why she should not spend time in

shopping, concerts, theatres, lectures and parties, except the dog parties reminding you of 1790—even suffrage parades—provided she will not forget that she has a baby at home to welcome and feed. The checking of babies, with or without baby carriages, by department stores, is a convenient innovation, which improves the chances of babies, women and merchants alike. Elections are no longer so exciting, dangerous, or murderous as they were in our large cities as late as twenty or thirty years ago—so there is no objection to woman suffrage, whether it be considered a plaything, a civic duty, or a disease. Even so, there is no danger, for infectious diseases in the mother are no contra-indication to nursing, unless it be a small-pox case in an antivaccinationist; for not injurious bacteria but beneficial antibodies pass into the milk and improve the baby's power of resistance. All of these considerations prove the dangerous tendency of those of our colleagues who in their mistaken subservieney to the ignorant suggestions of fashionable and lazy ladyships fall in with their and the dairymen's teaching that cows are their proper God-sent substitutes. These accommodating friends of ours are, through shortsighted complacency, enemies of the race.

The mother's milk has certain protective properties not possessed by any artificial food or the milk of another animal. Experiments have proved that the latter may propagate the artificial immunity toward certain vegetable poisons—the ricin and abrin; and a wet-nurse may immunize her nursing by being herself immunized through diphtheria antitoxin. So the mother who ever was thoroughly infected with scarlatina or measles will, at least for the time she is nursing her baby, protect the latter against those infections.³ The infected milk of an animal will not have that effect; immunity is secured only by the milk of the same—that is, the human animal—which proves that we are superior to our animal brethren and sisters; unfortunately, only so long as we are young. Many of us when we lose our infancy lose our superiority.

The attentive doctor and the diligent midwife know that our women, poor and rich, suffer from no organic mammary degeneration. Large and small breasts can be educated into competent milkers. They can be roused into action after days and weeks of comparative inactivity, and into renewed efficiency after a recess of one or more weeks. It is quite well known, what I alluded to, that the very suckling of the baby is the best edu-

cator of the breast. That is why for the hundreds of thousands of mothers, the doctor should be the oracle; the midwife of the people, with her future education and her diligence, the trainer. Both should remember, or rather, learn, that a better milk-supply is guaranteed by not improperly and untimely straining the breasts' function. You do not milk a cow every two hours. A healthy newborn baby should never have the breast more than once every three hours; after the third month, he must get along with five meals in twenty-four hours, and he will turn out a baby worth having.

Milk contains substances organic chemistry never discovered or measured. They are the *ferments* which circulate in the blood. Some aid in the digestion of albumin; others, of fat and starch. Besides, there are defenders in it of the circulating blood; the *alexins* (Hans Buchner) destroy bacteria; agglutinins immobilize bacteria by bunching them; antitoxins formed in the infected vigorous animal destroy the poisonous toxins of the bacteria. When they are not sufficient for instance, in bad cases of diphtheria—we inject antitoxins formed in the blood-serum of another animal—for instance, of horses. Any mother that ever had a mild or bad case of diphtheria—or, for that matter, certain other infectious blood diseases—accumulates some antitoxins in her blood and tissues, and in her future milk, and thus protects both it and her nursing. It is possible that so long as the infant is at the breast it is for that very reason less liable to take diphtheria. The fact is that few babies of the first half year become diphtheritic. That is the period of nursing at its mother's breast—its mother's or another human female's, not, however, that of another animal. It is not chemistry alone, but also biology, which distinguishes the milk of their organic producers. Old Doctor Heim was told by a so-called "noble" mother: "I keep an ass for my baby. Ass's milk is as good for my baby as my own would be, is it not?" "Yes, yes," said the old man, "just as good for young asses."

In Berlin half of the babies were breast-fed in 1890; in 1900, only one-third of them. At the same time, another German town, Barmen, nursed four-fifths of its babies—during one year, 99 per cent. Of 575 straying and neglected women in a Berlin institution, 83.3 per cent. could nurse their infants; why? they were better fed than before, and gave up only when the Moloch of industry reclaimed them as victims. After these poor babies had enjoyed the privileges of some of the rich—viz., health and life—they were sacrificed again on the altar of anti-social circumstances. For during the first year of life, of 1,000 breast-fed babies seventy have died; of the artificial-

1. Bluhm: In Weyl's Manual of Hygiene, vol. viii.

2. Furth, Henriette: Die Mutterschafts-Versicherung, 1911.

3. Fifty years ago I could refer only to anatomic reasons which secured the very young against diphtheria.

ly fed, 270 up to 430. They have been counted by the statistician, by the parents and by the undertakers.

Wittingly or unwittingly, surely not meaning it as a grotesque joke, the Nestle Food Company has a picture on the cover of their circular. It represents a woman with immense wings—perhaps meaning an angel—flying off with two babies to unknown parts.

The mortality of babies below 1 year has been found—not estimated—to be, for the exclusively breast-fed, 6.98 per cent.; for those brought up on a mixture of breast-milk and artificial food, 9.87; for those fed artificially, 19.75. That means that somebody or something is to be held responsible for the deaths of thirteen babies who should live in good health and with good prospects. Babies turned over to milk stations, because their mothers are told to "rest" may easily belong to that class. It is true, not every baby can be nursed, but the exceptions are scarce. One was born of a mother who died of sepsis carried in part by a dirty midwife or by an infected or ignorant doctor. That is true, statistically, even now that other doctors boast of their asepsis. My own past life does not class me among those others. So I may plead guilty, and no one has a right to blame me for exaggerations. I am, or have been, in the same boat with some of you. Of the five hundred tracheotomies I performed before the Listerian era, of a thousand I assisted in, of thousands of scarlatina, measles, erysipelas during epidemics, and even hospital gangrene during war times—too many occurred while soap and water existed without being used at the proper time and in the proper places. We did not know better, but you do. Every case of death of sepsis in the mother should burn hell into the conscience of whoever permits it nowadays; every case of death from lack of breast-milk should cause a trial for homicide against a doctor or midwife, or mother. For the latter, it is true, there are, if not excuses, many explanations. Some mothers must get up after three days to do washing and scrubbing, and do it without a sufficient quantity of food—starving women make no milk—must make a scanty living in the factory, or in a small business; others go to afternoon teas and bridge parties, or have been taught by their fashionable doctors who agree with them in their suggestions that modern science has proved that a woman's udder may be replaced by a cow's bosom, that a milk laboratory's clerk will furnish printed schedules for the modification or alteration or substitution of food adapted for every month of an orderly Fifth Avenue infant.

But after all, truth will crop out. There is rarely a woman who cannot nurse her infant.

Ignorance can be learned from and taught by doctors, by midwives, by nurses, but ripe wisdom also. As half of our babies, in all countries, are born under the supervision of midwives, it is these who, when their education will no longer be so hopelessly neglected as in our country, in their more intimate contact with the people can exert the widest influence. They will best overcome the prejudice which derives from the well-lad people the notion that breast-feeding is no longer fashionable; they will prepare the nipples, teach cleanliness and antisepsis such as they have been taught in the schools of the—I hope—near future. Edith Peiper reports an increase within five years of from 55.7 to 72.5 per cent. of women who gave exclusively breast-milk to their babies in a public institution.

In a large midwifery school of Germany (Stuttgart), the percentage of women who nursed their babies increased from year to year under proper treatment and teaching. Of one hundred women, only 22 to 25 per cent. gave their babies breast-milk to the exclusion of other foods before 1884. Exclusive breast-milk feeding was furnished by 41.1 per cent. in 1884; 61.4 in 1887; 84.3 in 1888; 100, in 1902; 99.5 in 1903. All of these women were poor or in very moderate circumstances, but they were looked after and fed before confinement and after. It takes missionary work to accomplish results of that nature.

In our country, it is calves that are looked after by our government. The babies have no votes yet. They will wait.

I must give you a few more figures, though I may bore you. But I have more sympathy with the world's babies than even with you. I want every incredulous Thomas to leave this place convinced that every baby has not only the right to suck a mother, but also the facility.

Diétrichs reports the mortality statistics of 628 infants of the poorest married women of Cologne. Of 100 children born alive, three of those who were nursed for nine months or more, died before the end of their first year; of those nursed from three to nine months, twelve; less than three months, thirty-five, of those who were fed artificially, forty-seven. Forty-seven died out of 100 born alive, in one year.

Perhaps a report by Prinzing is equally convincing in connection with the mortality of other than intestinal diseases. During the years 1895 and 1896, the mortality of Berlin babies under one year, when breast-fed, was 7.09; when fed artificially, 38.6. Of 1,000 babies congenital debility killed 14 of the

breast-fed; 43.6 of those raised artificially. Of 1,000 babies:

	Breast-Fed.	Artificially-Fed.*
Gastro-enteritis killed.....	12.2	171.0
Atrophy and marasmus....	2.0	24.0
Convulsions	11.16	42.0
Bronchitis and pneumonia... 5.6		39.6
Pertussis and diphtheria... 8.3		19.3
Other diseases	17.2	46.4

*Alfred von Lindhelms, *saluti juvenutis*, 1908.

The illegitimate infants fared much better than the legitimate ones. That sounds paradoxical, but the former, when controlled by the authors, were obliged to nurse their babies; the latter were the babies of the mothers who returned to domestic and factory work, and were exposed to neglect and early and improper artificial feeding, mostly by strangers. Among living infants of the second year, the proportion is reversed, for obvious reasons. The lessons to be derived from these facts are intelligible. A social improvement of the mothers, but that only, will add to the chances of the infant population.

Boek found that of infants who died of intestinal diseases, 61.4 per cent. were fed on flours; 24.3 per cent. on cow's milk; 15.8 per cent. on a mixture of breast-milk and cow's milk, and 1.4 per cent. on breast milk.

During the siege of Paris (1870-71) the women were compelled to nurse their own babes, on account of the absence of cow's milk. Infant mortality under a year fell from 33 to 7 per cent. During the cotton crisis of 1860 there was a famine. Men and women starved, and on account of no money for artificial food, the women nursed their babies. One-half of their mortality disappeared. In the poor forest districts of the Westerwald the bottle-fed babies had a mortality of 20 per cent.; the breast-fed babies, one of 8 per cent.

In the *Berliner klinische Wochenschrift* (No. 28, 1911), Professor Franz publishes the report of the gynecologic divisions of the Charité. One hundred per cent. of his puerperal women nursed their babies. Dr. Kahn accomplished mostly the same results.

It is true that private practice does not reach the same number. Among the well-to-do, with better surroundings, better food, more rest, but greater indolence, less sense of responsibility, more money to throw away and more accommodating doctors to amuse them, and with more money with which to buy inferior food, the percentage of nursing women is smaller. Their daughters will know better, provided the doctors—we and our successors—will teach them.

G. Dufort reports on conditions prevalent in four districts of Belgium. Women objected to nursing, with a mortality of from 153 to 252 per one thousand, in the first year. Then

the government and a private organization took measures to improve the percentage of breast-feeding women. Not all governments mix up with such things. Some are not on the job, some are on the slump. This percentage increased in certain localities where it was lowest, within two years, from 4.3 per cent. to 17.02. That increase was due to the midwives who were taught by premiums, by the practitioners and by clergymen. You see doctors and priests are still good for something. In other districts the percentage of breast-feeding was 56.6 per cent. in 1907; in the first half of 1908, 57.1 per cent.; in the second half of 1909, it was 74.12 per cent. That means an increase obtained by the country midwives in two years of 17.6 per cent. More, there were midwives who could report 94.9 per cent. in the first half of 1908, and at the end of 1909, 100 per cent.

The same midwives made it their business to extend the duration of breast-feeding. In 1907, there were fifty-seven babies who did not receive the breast through the first half year exclusively; this number was reduced to forty-eight at the end of 1909. Of the infants who were kept at the breast exclusively through six months, 64.7 per cent. extended this time to nine months; 75.4 per cent. in 1909. The author again and again refers to the powerful influence the midwives—after having been instructed—exerted among the population—the women and the babies.⁴

In 1900, the German Empire lost 426,485 infants under a year old. That means 27.5 per cent. of those born alive. Of these, 61,340 are reported to have died of congenital debility. What is this debility? How did it occur? Something has caused it during embryonic and fetal life. A disease of the embryo or fetus. Infection through the placenta; starvation of the mother by poverty; overwork in a factory; poisoning by a chemical; prolonged labor; unattended labor; unskilled attendance, and some of the other causes I am going to mention.

Whatever among these influences can be avoided or cured saves infant life. It is our duty to look for the causes of debility and death in order to escape from them. We have spent more care on the health and efficiency of the cow and her milk than of the mother and her milk. No doubt the efforts to improve the chemistry and physics of cow's milk, and the beneficent activity of medical and lay milk commissions have borne fruit, and the safeguarding of milk by sterilization, pasteuriza-

4. Dr. A. Baletsky and Dr. M. d'Oelsnitz (Bericht, über den III. Internationalen Congress für Säuglingsfürsorge Berlin, Sept. 11-15, 1911, p. 789) express their satisfaction with the results of the Infant Protective Society of Nuremberg, which was founded twenty-five years previously, mainly for the encouragement of maternal breast-feeding.

tion and modification has saved lives, but we must look for a higher percentage of salvation. That can be reached, for even the average mortality of a single, mostly poor, country—Norway—has reached as low a standard as 8 per cent. under one year. Wherever financial circumstances are more favorable that should not be the lowest percentage.

What, after all, is a midwife, whose presence at or attendance on a confinement case must be shunned? An editorial of the *Boston Medical and Surgical Journal*,⁵ that cautious and elegant magazine, gives the following definition:

"The midwife may be defined as a person attempting to practice obstetrics without complete or even adequate medical education. The tolerance of such persons is an anomaly in an enlightened civilization. The midwife is a relic of medievalism, unhappily extant in the Old World, but whose persistence in our own community should not be encouraged by any form of recognition."

Meanwhile, Holland, Belgium, France, Italy, require a two years' course of schooling for their midwives; Norway, Sweden and Denmark, one year. Germany has had its midwifery schools for more than a century. Many countries subsidize their midwives, who live and practice in sparsely settled districts. Great Britain⁶ established in 1902 its Central Midwives Board, to supervise and control midwives for the specified purpose of preventing the death of women in childbirth, infant mortality, blindness, and physical degeneration.

There are in England and Wales 17,790 trained and untrained midwives—too many yet of the latter class. The British Empire's 108 midwifery schools—including four in the East Indies and one in Hong Kong—have not yet afforded sufficient facilities. But the *British Medical Journal* emphasizes the fact that even in the old type of midwives there is a great improvement in cleanliness and obedience to rules, one of which is the calling in of medical aid in cases with a purulent discharge.

And we? Fifty per cent. of all the births in the United States are attended by non-medical women—in New York, 42; Buffalo, 50; St. Louis, 75; Chicago, 86. The patients so attended are negroes, aliens, and natives born of aliens; that means one-half of our population; that means those who during the disappearance—voluntary, wanton or not—of the original stock and by additional immigration and multiplication will form what within two generations will be the type of the two hundred millions of Americans then living. And where are our midwives? Where are the 108 schools which little Great Britain deems—on account of their scant number—insuf-

ficient for her urgent needs? Where are the American safeguards of our fetuses and newborn? When our experienced and far-seeing president of Bellevue and Allied Hospitals established a small school of midwifery, he was applauded for his exceptional foresight and altruism. We think nowadays that the ocean is only a short bridge; but the experiences of Europe, established on a solid and constant foundation, do not travel on it. That is the way of indolence by which we negligently murder our forests, lay dry our river beds, cause our freshets, and kill or cripple our newly born. I wonder in which other country we could be expected to accept what I lately read, that people cannot receive obstetrical service under the midwife, "no matter how well trained for her vocation;"—I ask why not?—or agree with a well-meaning author who sympathetically cries out: "Professors are teaching midwives, so medical students are deprived of their professors' time;" or throw up our hands when Stokel tells us that it is "a curious fact that even among people of refinement the older and dirtier the midwife, the greater seemed the confidence placed in her ability and judgment." That is as sound, perhaps, as when the great English opsonin scientist publicly arraigns habitual bathing for its dangerous effect in admitting microbes through the clean skin—a desirable bedfellow he!—or when Knott⁷ tells us that "Lady Lawson, who died at the age of 116, never practiced ablation of any kind, or hardly in any degree, because, as she alleged, those persons who washed themselves were always taking cold or laying the foundation of some dreadful disorder," or the occasional preference given to an old doctor not though but because he is habitually intoxicated. There is still another line of mistaken altruism; Fenwick fears lest a midwife, scantily trained, compete with a physician. I should say, if she succeeds, it serves him right unless he owns a superior training. A pretty good doctor will not do for you or your wives or cases, any more than a pretty good egg for your breakfast.

Is there anybody here who remembers that when fifty years ago the question of the licensing of midwives was brought up before the Medical Society of the County of New York, it was voted down with all con except one? Ask our New York doctors at present. We know better now, and feel better about it. For we feel like citizens at present. We have also been told that all countries have found "the practice of midwives unsatisfactory." The fact is, however, that the other countries pretend to know their own business, and constantly add to the facilities and education of midwives as we do those of doctors. Some assert also that the attendant on a midwifery case

must either be a trained obstetrician or a subordinate "like our excellent trained obstetrical nurse." "The obstetricians are the final authority to set the standard. They alone can properly educate the medical profession, the legislators, and the public." Who educated *them*, if you please, if not the professional schools, and they themselves as best they could afterwards? The midwives are not even mentioned as worthy to be educated. Do our obstetricians demand all the obstetric practice? I am prepared to bid a hearty welcome to the evening-dress obstetrician—who charges \$200 or \$300 or \$500 a job—to the confinement where the man earns ten or fifteen dollars a week, or the woman thirty-seven cents a dozen, and the children nothing.

In spite of English complaints concerning the insufficiency of midwifery attendance, the reports are very promising. In 1910 there were 321 midwives in Liverpool, 198 in Birmingham, 159 in Manchester. In Liverpool, the average number of cases per midwife was seventy—one had 500 cases. Of all the births attended to there were by midwives in Liverpool, 71.9 per cent.; in Birmingham, 63.2 per cent.; in Manchester, 57.2 per cent. Stillbirths attended by midwives were 391 in Liverpool, 212 in Birmingham, 279 in Manchester. Their honest discipline is exhibited in the following figures: Medical assistance was called by 1,015 midwives in Liverpool, by 774 in Birmingham, and 2,279 in Manchester. The indications for such calls, under the universal rules, are high temperature, abortion, laceration, illness of the patient, imperfect removal of the placenta, puffiness, convulsions, large varicose veins, sores on genitalia, malposition, trauma, hemorrhage, venereal diseases.

This very day the system under which they work with us is an absolute lack of system, slovenly and shiftless—no instruction is offered, no examination demanded, no supervision enforced, and the babies swell the universal mortality.

What is it that a midwife should be taught? Common sense and the experience of other countries should tell us, for we have none—I mean experience. We are only told that she is dirty, ignorant, untrained, superstitious, septic, the cause of invalidism, degeneracy and blindness. That is a list of statements exhibiting more temper than knowledge. For, indeed, in thirty-three of the fifty states and territories there is no law restraining the practice of midwifery or what is so called. In three there is no restriction whatsoever. In thirteen there is no provision for training, but there are, curiously enough, laws requiring examination and licensure. What is it, after

all, that every one of our states—indeed, after a while, the federal government—should demand on the part of a midwife who is to be the obstetric guide of fifty millions of Americans? In my opinion, she must have as moral a character as you expect in a male or female student of medicine or man generally—and, for that matter, of any American outside a penitentiary; a good common school education without Latin and Greek; a fair health so as to endure the hard work she means to undergo in future; a reputation for love of work and conscientiousness; and such knowledge of popular physiology and anatomy as the program of our future midwifery schools will designate. What they must surely teach, like the English schools, are four topics—the care of expectant women, the conduct of normal labor, the care of babies immediately after birth, the simple principles in an urgent case of artificial feeding—and the diagnosis of abnormalities, so as to advise the calling in of medical skill. As there are many, I shall spend a few minutes on the consideration of some of them.

The fact is, that of one hundred deaths under a year, 2.2 occur by injuries during birth, ten on the first day of life, twenty-five during the first two weeks, thirty-four during the first four weeks. Most of them should be saved through perfected knowledge and art, more skilful attendance than half our population enjoys, and greater acquaintance with the dangers of the newly born. You notice that a large number die from other than the usual causes, viz., indigestion.

A calamity never prevented by one of us, possibly by an attentive and painstaking nurse or midwife, is death by suffocation.

There were in England and Wales during ten years 10,009 *overlain* infants; in 1900, 1,774. In Liverpool, out of 960 inquests, there were 143 on babies that had died of suffocation from the same causes, by accident or malice; in London in 1900; 615; in 1901, 511; in 1902, 588. In London, they had annually 8,000 official inquests, one out of fourteen of which were on overlain infants. A serious complication of labor in asphyxia. It may be caused by the mother or by the fetus. Disorders of placental circulation, mostly toward the end of labor, early loss of amniotic fluid, respiratory and cardiac disorders, disruption of the placenta, compression of the cord and cerebral pressure can mostly be prevented or moderated by appropriate aid. Asphyxiated babies may die, however, within an hour, or the first few days. Those who do not so die are apt to be worse off. They are very liable to become paralytic, idiotic or epileptic. Little shares that opinion, the contrary assertions of others notwithstanding, that a large percentage of cases of

spastic encephalitis ("Little's disease") is produced by congenital asphyxia. Hundreds of times, both in obstetric and in pediatric practice, have I, when looking for etiologic factors, received the uniform answer that the baby did not cry for some time after birth, and that the attendant had to work over it minutes, or even hours. Asphyxia must not be tolerated. A few moments' delay adds to the danger which may be averted by knowledge and skill. Losing a baby is a loss and bereavement; crippling it for life is worse. Accidents of the kind can be avoided by much less than the profound knowledge of medical experts, few of whom will ever deign to attend a mere case of common confinement. The statement on a certificate that the new-born is a still-birth means a statistical fact, not an explanation, still less an excuse.

Atelectasis is more apt to be relieved, and death from it more readily prevented, by a midwife than by one of us, no matter by what it is caused. Soft cartilages in the premature, feeble muscles, defective nerve centers and lungs, but mainly hepatization, early pleural effusion, straua and compression of the brain are the usual causes. Frequent changes of position, warm and cold baths, shaking, forced inspiration, occasional closure of mouth and nose—so as to fill the medulla oblongata with an extra momentary dose of irritating carbon dioxide—an interrupted momentary Faraday stimulation and all the procedures demanded in asphyxia are advisable in atelectasis. A midwife should and can master all or most of these measures, as well as a doctor. The former is more efficient because she mostly uses more diligence and will spend more time than most of us.

The observing obstetrician or pediatricist or midwife has an opportunity to notice all sorts of microbic infections, such as tetanus, hemorrhages and the intense forms of syphilis. Its worst form is the pemphigus of the soles of the feet, which must be recognized within a few days. The midwife is the readiest to make the diagnosis, and to recognize the necessity of treatment. That does not mean her treatment, just as little as she will undertake the treatment of melena, sclerema, jaundice, sepsis, dermatoses, erysipelas, traumata or umbilical defects or diseases.

Some of the septic diseases of the newly born for the cure of which the doctor is always too late, or incompetent, are those which go by the name of Buhl, of Winekel, etc. They develop before any symptom is perceptible. The poisons which cause them are probably multiple and connected with the rapid metabolism occurring during, and immediately after labor. Many cases look like acute atrophy of the liver, or pernicious vomiting; or the main symptom is fatty degeneration, or hem-

orrhage, or intense jaundice. Overdoses of chloroform in predisposed women have been accused. Intense asphyxia I have seen coupled with, or causing it. There are many such cases which can be prevented by appropriate and instant aid, such as I plead for. Many, I believe, will be cured by vaccine therapy, provided it can be employed in time. That is possible only when the indication for it is suggested, or only suspected by a person who is on the spot and better taught than a common neighbor or nurse.

The mouth of the newly born is exposed to injury resulting from the antediluvian tendency of not leaving well enough alone. The habit of washing and rubbing the oral cavity of the newly born, even by clean fingers and rags, hurts the very thin mucous membrane covering the posterior part of the alveoli, and the punctated epithelial accumulations on both sides of the raphe. Doctors and nurses and midwives who do not know how to omit interference are dangerous. For the forcible removal of the epithelium leads to invasion of cocci and bacilli, and the mycelium of *thrush*. The latter, though easily cured by a strong solution of borax in glycerin, need not occur in the baby's mouth, for its habitat in the vagina of the mother is quite accessible, both in a private home and in obstetrical wards and in foundling institutions. A consecutive invasion of the stomach and intestines, of blood-vessels and lymph ducts, even of the kidneys and nerve-centers, may easily be avoided by a person who has been taught to prevent and to cure.

Constipation of the newly born should be recognized by the midwife. What I described nearly half a century ago as *congenital constipation* is the result of an excessive length of the sigmoid flexure. When its continuance for one or two days suggests it, enemata should empty the bowels. Unless that be done, moderate and later on serious costiveness is an accompaniment of the dilatation of the descending colon, and auto-intoxication. "Hirschsprung's disease" is rarely a fully developed congenital dilatation. If a midwife be too alert she is capable of preventing an operative interference. I was one of the alert midwives. None of my cases ever terminated on an operative table.

Ophthalmia is the source, not only of blindness, but of death through general septico-pyemia under the general symptoms of multiple abscess and arthritis. A series of cases I, like others, have observed, of vulvo-vaginitis, endometritis and peritonitis. That endometritis is always of long duration, may for anatomic reasons relapse indefinitely for many months and years, and often gives rise to contagious dissemination in families, in

hospital and asylum wards, by careless nurses and by gregarious bathing.

Uric acid infarction of the baby is a frequent occurrence of the second day until the end of the first week. It is rarely observed by the doctor (if any was employed) who sees the new mother perhaps once a day, if at all. Thus in this respect the well-to-do mother is worse off than the poor who is seen by a midwife whose visits are more frequent and more extended.

The tissues of the newly born contain more water than those of the adult; the difference amounts to 10 per cent. *Loss of water* is badly tolerated, while large quantities are eliminated at once through the lungs, kidneys and skin, and some through the intestines. Without a proper supply, the tissues deteriorate and the physiologic equilibrium is lost. That was always so—the newly born is conservative—and was considered normal. The baby had to be satisfied with reading in every text-book—even in the old ones from which some new ones are compiled—that he had to please the attending oracle by giving up 10 or 20 per cent. of his weight within a week or two. However, as the mother has but little milk during the first days, the least the baby has a right to expect is water—at least teleology ordains it so—the more so as the first mammary secretion means colostrum, which contains three or four times as much protein as the milk of later weeks—that means 3 or 4 per cent. That is mainly so—even still more so—when the baby is premature and endowed with less vitality than when born at full term. Neither you nor I shall undertake to change that, but the danger connected with it requires correction, and if artificial feeding be resorted to at all the food should be amply diluted. There is another reason for so doing. Uric acid sediments and renal stones are comparatively frequent in small infants. They are caused by the uric acid infarctions which, as a speedy result of the rapidly changing metabolism, are found in the diapers on and after the second day of life. Besides forming gravel and canculi, they give rise to occasional attacks of colic, to small hemorrhages and frequent cases of nephritis, with or mostly without, pyelitis. Neither I nor my pupils and friends have seen so many stones and inflammations since, for the last forty years, we made it our rule to feed the newly born on plenty of water. It is also demanded for the purpose of rendering the chemical and physical condition of cow's milk casein more digestible. As long as a human baby is not permitted to live on its mother, that fact is important to consider. Artificial feeding during the first days and weeks should furnish more than 75 or 85 per cent. of water, which is normal even for the adult.

Altogether, our infants and children are not supplied with water in sufficient quantity at any time. In our era of equality for all sexes and colors, we should recognize the rights of all ages.

When you are hungry you want to eat; when thirsty, you drink. The baby wants its equal rights. But no matter whether it is hungry or thirsty, it is condemned to receive the same food to quench both its hunger and its thirst. When it cries with hunger, it justly receives food from the bottle or breast; when it cries with thirst, it is given the same food from the same bottle—not mere water. I have often felt like presenting a bill to the legislature or to the professional philanthropist, enforcing, when father, mother and physician are thirsty, beefsteak and potatoes. I wonder how they would like that. A German pediatricist improves the method of giving water by giving the new-born tea and saccharin. What ten is, I do not know; what saccharin is, we do know. It is found to be a poison. That should, however, not have been the reason why our magnanimous Agriculture and Treasury Departments twice postponed the execution of the law which forbids its indiscriminate sale by the manufacturers of foods.

Midwives are more fortunate than we doctors. They need not know so much as a few taskmasters ask of them—for instance, two German professors, Salge and Siegert, who are so interested in the babies as to insist on midwives being examined on the intricate problems of metabolism. I fear, after having been a midwife sixty years ago and since, I could not pass to-day. Then, they need not know all the mixtures and mathematical formulas concocted by twenty of my pediatric friends, each one of whom is sure that the other nineteen are quite wrong. Nor need they be acquainted with the fifty artificial foods which were recommended by the *Deutsche medizinische Wochenschrift* a short time ago, and again rejected—all of them—in the very same year.

The teaching of midwives is not so difficult as part of our profession imagines it to be. We are defective ourselves, for there is a fact which seems to be agreed on by our college teachers, viz., that our young doctors are incompetent to conduct a normal or abnormal labor. As that is so, we, the practitioners, should try to learn some lessons by theory but more by practice. Their incompetence is the result of the insufficiency of our medical school instruction, which is acknowledged to have been scanty in spite of our four years' medical courses. The schools furnish neither systematic obstetricians nor competent general practitioners. I shall not be hard on them, however, for I was a teacher myself. That is

why the number of septic infections and of still-births is liable to be large in their practice. If that occur in the green tree—viz., among the men and women with medical diplomas—what can we expect from the untutored?

We speak against midwives and their detrimental doings, and their unreliability. Teach them their duties, which are not many; furnish beside instruction—which even for a hundred thousand physicians is scanty or none—so that they will learn the manual care of labor; let them be taught not to use medicines, not to operate, not to try even to remedy, as a rule, wrong fetal positions; teach them the use of soap and water, and antiseptics; enforce by law and custom the frequent change of their own clothing; forbid the simultaneous attendance on two or more cases; see that the midwife does not attend a labor case as long as in her family or immediate neighborhood there is a case of contagious disease, and she will cause or disseminate no puerperal sepsis. She must be examined and licensed and protected, like you and me.

Registration alone, however, will not do. Nor will our complaints do. Our responsibility does not cease when we decline it. Our duty does not end by sending and collecting a bill for an individual medical service. A death not prevented, a life not saved, is a blot on our escutcheon. The people want more. We are not yet—as the British government proposes—official state employees of the people. If there were not an excess of individualism among us, the attempt to force socialistic coercion on the profession of England would not have been made. Not yet.

Less than a year ago, the New York Academy of Medicine passed, among others, the following resolution:

"Whereas, some of the results of obstetrical malpractice are unnecessary, blindness, mental and physical degeneracy, and death of infants, and unnecessary suffering, invalidism, and death of mothers; and whereas both doctors and nurses in this country are given instruction in the treatment and care of child-bearing women and new-born infants, there is no existing provision for the adequate training of women who take into their keeping the lives and future well-being of this large number of both mothers and infants, be it resolved that the Section of Obstetrics and Gynecology of the New York Academy of Medicine recommends that measures be taken in this state to secure state legislation which shall provide for the training, registration, licensure, supervision, regulation, and control of women engaged in the practice of midwifery."

It is useless to attempt a comparison of a midwife with a medical man. They must be

considered individually. The ignorant doctor in obstetric work is the inferior of a well-informed midwife, and *vice versa*. I remember only two cases of sudden death caused by atmospheric air entering a large uterine vein—in both instances resulting from the nozzle of a fountain syringe introduced into the uterus before the air had all been expelled. In both cases it was a medical colleague that did it. That does not prove that we doctors do not know how to clean a uterus without pumping air into a vein—but I know of no midwife that could have done worse. Still, ignorance, like sinfulness, makes all mankind kin. The greater number of annual labor cases in the United States—more than a million—are attended by midwives. As long as these cases are uncomplicated, the presence of a bright trained woman should be, and is, welcome. She must have learned to distinguish the position of the fetus, and know when to call a doctor; how to do, in his absence, a version in cases of emergency; how to attend the eyes; hemorrhages depending on incomplete uterine contraction or from injuries—one of which is tearing off of the placenta—and how to recognize eclampsia, inversion of the uterus, the presence of a mechanical obstacle like fibroma or a contracted pelvis. She must know how to deal with asphyxia. More than anything, she must have been taught to appreciate two things: first, how to keep absolutely clean—that means to disinfect herself and her hands; second—and therein lies a secret of success—not to leave the woman. That is more than you or I do, or usually did.

The results of midwife practice do not always compare unfavorably with those of our professional brethren: Of 116 cases of ophthalmia neonatorum which were treated in the Massachusetts Eye and Ear Infirmary in one year, 114 were in infants attended by physicians, and two by midwives. Of thirty-three cases treated in the New York Eye and Ear Infirmary in one winter, twenty-two occurred in the practice of physicians, and eleven in that of midwives. Of the eleven midwives three had used nitrate of silver; of the twenty-two doctors, only one. According to these reports, if it were wise and proper to generalize, the doctors should be replaced by midwives.

In a period of years, 1905-10, the City of Manchester, England, has the following to say about puerperal fevers, and recoveries and deaths following them, in the practice of midwives and of doctors. In the practice of midwives there were 219 cases of puerperal fever, with forty-one deaths; in the practice of doctors, 275 with eighty deaths; in the cases attended by midwives and doctor, 100, with twenty-six deaths.

Nor are midwives' cases, those reported in 1910, inferior in results—forty-five puerperal fevers were treated at home, with a mortality of ten or 22.2 per cent; in Monsell Hospital, sixty-six cases with sixteen deaths, or 24.2 per cent.; in other institutions, twenty cases with five deaths, or 25 per cent.

The absence of skilled assistance from a confinement is one of the causes, not only of death, but of what is still worse, of degeneracy of the new-born. How many, nobody can tell. But it is worth while to reduce the number of 60,000 weak-minded or mental degenerates with which we are credited in the state of New York alone. The statement on a birth certificate that the new-born is a still-birth means a fact, not an explanation, still less an excuse. Many of them could be avoided if the women of the United States were protected against ignorance and indolence. When I was in active obstetric practice fifty years ago, I met in the tenement-house population many a case, which should have been saved if any bystander had known enough to afford manual assistance, such as that of a well-informed midwife. That, however, is only a part of the possible mishaps. What proper assistance may prevent is a vast number of paralytic, spastic, idiotic, semi-idiotic or epileptic conditions, mostly during infancy and childhood. How many? I do not know. But I have seen hundreds personally. Questions were as follows: How was that baby born? Did it take long? How long? Was it an instrumental case? Did the baby cry immediately? Was anybody present to help you? Did it take the doctor, who was called in, long, a minute, ten minutes, or one-half of an hour to make the baby cry? The answer gives the history of asphyxia, which—and that is my point—could have been prevented, or relieved, at once by a midwife. I hope there are many general practitioners here, such as I am or have been. They know how much they would have wished to be present on the spot, or to have a midwife to attend when they did not care to attend or could not do so. How many cases might have been carried to a safe end, when a little aid would have prevented intra-cranial hemorrhage caused either by direct lesion or thrombosis, can be surmised only when you remember the many patients with meningeal hemorrhage or inflammation who die within a week.

Now, my friends, you have been kind to me and patient, as hundreds of times before. That is why I shall now finish in a minute with a few conclusions for those who with me are convinced that healthy women and living vigorous infants are the best possession of this nation. They will not be conquered with treasures and cannon and corpses of

countless men; they need conservation only. What I want is that a pregnant woman should be in a condition to carry her fetus to its legitimate end in health and vigor, and be able to nurse her infant. Every text-book talks to us of the inability of women to do so, and indicates formulas and tradeships and factories from which to graduate toothless young Americans. One hundred per cent. of our women, however, can be made to nurse, even the "flower and fashion" of the land. From two to three times as many babies will live when breast-fed compared with the number of those whom they complacently try to raise on artificial foods. By breast-feeding you will save 100,000 babies that now die or become invalids, from no other cause but unnatural feeding.

Dangers which now attend the process of parturition for more than one-half of the women of this country must be modified, relieved or removed by the presence of a person instructed to conduct a normal labor and, when needed, to call timely aid. We want, for the benefit of the women who need midwives, 200 midwifery schools after English or German pattern. Let no legislature of any state pass without a bill or law to safeguard the newcomers and their mothers.

A town without an ample supply of good doctors and midwives and a village without one or two competent and responsible and licensed midwives, are like a tenement house without a fire-escape or a *Titanic* without life-boats.

19 East Forty-Seventh Street.

ANTI-TOXIN IN DIPHTHERIA AND MEMBRANOUS CROUP.*

By I. H. BROWNE, Winchester.

The wording of my subject is of my choosing, and I should have omitted the last clause; but had a purpose in the arrangement of the phraseology which will appear later on. My treatment of this subject shall be purely practical, leaving theory and disputations to book writers and scientists, while I tell briefly something of what I have seen and learned in actual practice of the "all controlling" power of diphtheritic antitoxin, in this scourge of the cradle and early life. But for motive we have in mind, in the wording of the title of my paper, I should think it a waste of time to say that antitoxine for diphtheria would be inert in membranous croup if there be such a thing as membranous croup, unless we concede in our nomenclature one's right to call laryngeal diphtheria, membranous croup, to which I very strongly object, as

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tending to confusion of diagnosis and consequent treatment. In the early days of antitoxine; observing the rapid disappearance of the visible false membrane, after a full dose of the antitoxine—fading away like magic—I was led to the false belief that this antitoxine would tend to the solution of the false membrane in the windpipe from every and any cause.

Now we are quite sure that this treatment would prove useless in laryngeal false membranous formation, except of this specific origin, if such false membrane ever comes from any other cause. In our first experience with antitoxine in the treatment of so-called "membranous croup" we were called to two cases in one family—two others had died in the same house within the week—and had the satisfaction of witnessing a rapid recovery. Within twelve months a scientist discovered the identity of the germ producing diphtheria and membranous croup, and the leaders in the world of science have abandoned the old name, and now call all such cases "laryngeal diphtheria."

In the very early days of diphtheria antitoxin its hardest battle for acceptance as the "panacea," which it has since been demonstrated to be, was in overcoming the widespread belief that the new remedy was producing Bright's disease, and if so, killing more than curing, for it is a truth of statistics that more children untreated die of Bright's disease than from laryngeal involvement, and perhaps almost none died in the old days of "inert" treatment except from one of these two accompaniments; and now all recover under full or proper doses of antitoxine used in reasonable time. The false idea that antitoxine produced Bright's disease so dominated the minds of our practitioners, the world over, that we dared not "press" in the cases of acute diphtheritic nephritis; being satisfied with using the ordinary dose, and surrendering our little patients to the inevitable.

This false theory dominated our practice for a number of years, till we encountered a case apparently hopeless, of laryngeal diphtheria, in which was administered to a nine months old babe, 6,000 unit doses at intervals of eight hours, till 18,000 units had been administered (in 16 hours) at the end of which time no improvement was noted, but some encouragement taken from a standstill, when the dose was doubled, giving 12,000 units at a dose, repeated at the end of eight hours; making 42,000 units administered in 32 hours. At the end of eight hours more the case was clearly under control, but the physician in charge, to make assurance doubly sure, administered 6,000 units more or 48,000 units to a nine months old babe in 40 hours. Clearly here was a life saved, but on securing a sam-

ple of urine, soon after, and subjecting it to the heat test, we beheld in horror a conversion of the urine into a solid mass, such as one would see from heating the white of an egg; and all hope was abandoned. But the heroic doses of antitoxin, administered for securing a solution of the membrane in the windpipe had done its work and the albumen was gone in 24 hours; the patient making a speedy and uneventful recovery. This lesson, burned into our brain, has given us a success that inspires us with a courage to believe that the recovery of every case of diphtheria, regardless of sequelae, laryngeal stenosis, acute nephritis, or paralysis. An experience extending over many years, in which we treated many cases of diphtheria, led us to believe that life is practically not in jeopardy except in laryngeal or kidney involvement. Also that it were a needless expense to use antitoxine in most cases, all in fact free from laryngeal or kidney invasion, as we always find nephritis early if at all and the same is true for the larynx; but recently we had a case of very severe paralysis, as a sequel of a very mild attack; therefore we have returned to the old practice of administering a single full dose—6,000 units—within the year; 10,000 units second year, in the mildest cases; though this practice is based on the one case of paralysis in a period covering from the introduction of serum therapy in diphtheria to the present time; but one were enough to justify a never failing use of the serum.

Therefore, guided by the lamp of experience, shining on our pathway, our refuge in laryngeal diphtheria, or membranous croup, if you choose, is in full doses of serum, repeated at intervals of eight hours, given for effect, doubling the dose if relief is delayed and in extremes we forget the units in a dose, but keep right on till victory crowns our efforts.

WHAT MUST WE DO TO BE SAVED FROM TEMPORAL DEATH?*

By REV. D. H. HOWERTON, Columbia.

I have exercised the right to change the subject a little and shall give a partial answer to, "What must we do to be saved from unnecessary temporal death?" or how may we prolong life?

I do not come to speak with the authority of a medical specialist, but the rather, to discuss some matters that are patent to the average layman.

I have injected into the subject the word, "unnecessary," because any preventable death is unnecessary. The answer to the question may be stated as follows: By preventing and holding in check disease and by avoid-

*Read before the Adair County Medical Society.

ing accidents or other things that would hasten death. I shall undertake to show how some of these death-dealing forces may be overcome and thus how to prevent the unnecessary.

But, as I see it,—taught both in Revelation and by observation, confirmed by experience—there is no ultimate escape from death. "Death hath passed upon all." "It is appointed unto men to die." So death, as conditions now exist, is a divine arrangement. But it is not provided that we shall hasten the divine plan by failure to prevent, or defer death as long as practicable. We have a divine appointment to die, but also a divine prohibition against taking our lives, or impairing our usefulness. And this prohibition carries with it the idea of caring for health, guarding against anything that may cause us to die, and thus of prolonging life up to, and, if possible, beyond the Scripture limit of three score years and ten. It also penalizes the one who fails to do all he may to prevent death as long as he can. And the penalty is to be seen, not only in the offender himself, but the iniquities of the fathers are visited upon the children of the third and fourth generation.

So death that comes early in life as the result of disease contracted through exposure, neglect or other violation of hygienic laws, or by any other causes that may be avoided, is unnecessary, preventable and renders the offender culpable.

Such a death is a three-fold offense, viz.: Against self, against the community and against God. Every man owes it to himself to live as long and as soundly in health as he may, in order that he may develop to the full his inborn powers, enjoy the pleasures of his environment and prepare for the largest possible life in the great beyond. He owes to the community a long and honorable career that he may bless his fellows among whom he moves and lead them into something noble and good. One has no right to kill himself or to shorten his life by any means that may be avoided. And he who does it, to the extent of his personal neglect, brings disgrace upon himself, his family and the country in which he lives. Particularly is this true of suicide. No one has a right to take, either his own, or another's life. To God who gave life he owes it to live as long and honorably as possible that he may glorify Him. Our lives are in His hands and He will take care of them; if we will let Him. But we must let Him by caring for ourselves as far as in us lies.

Now I am in the predicament of one of our pastors, a doctor of divinity, who was attending a banquet in the city. He had been addressed as doctor. His companion at the ta-

ble, not knowing his profession, asked, "Doctor, where do you practice?" The pastor replied, "I do not practice, I preach." I am neither a physician, nor the son of a physician. I fear I do not practice as I should. Certain it is that I am not what is regarded as a practitioner. But on the other hand, I am not "just preaching" now. I am in earnest and trying to give a few solid facts for earnest consideration.

We love life. We want to live. We do not want to die. The fact is, in the last analysis, we are all afraid to die. I do not believe a healthy, normal person ever does, or ever should want to die. But he should so order his life as to be ready to die at any time. In order to live and so prevent unnecessary death, we must observe God's laws for the prevention of disease, preservation of health and the prolongation of life. These laws are easily discovered, if not so easily obeyed. And they carry with them penalties that cannot be escaped if they are violated.

I mention three avoidable ways by which unnecessary death is hastened. These are exposure, intemperance and neglect. There may be others—in fact there are others, many of them. But these will suffice for this study.

Now, I did not solicit the privilege of making this address. But since, assigned to the task, I must give expression to my convictions. I am aware that I am touching delicate matters and treading on dangerous ground. But, you know, "Fools rush in where angels fear to tread." I dare to speak what I might perhaps better be afraid to utter. Concern, however, for the welfare of the community requires plain speaking. I am not the regulator of the community's conduct. But I am interested, both for the health and the morals. And this is a matter involving morals as well as hygiene.

By exposure, mentioned above, I refer to ones placing himself in a position where he is liable to injury or to infection from disease, either of which endangers life. No injury, of whatever nature or degree of seriousness, is ever so thoroughly overcome as not to interfere in some degree with one's life. We induce colds and their resultant diseases when we fail to exercise care as to clothing, and as to what we do and where we go in disagreeable weather. We lay ourselves liable to accidental injury and death when we come too near an object in which there is danger. We subject ourselves to infection when we do not avoid any, and all contagious or infectious diseases. In view of these facts, do not expose yourselves, that you may be saved from unnecessary death.

By intemperance, many things, other than the excessive use of intoxicating liquors, is meant, including this, however, I mention

intemperance in matters of clothing as well as in eating and drinking.

Now, I am not a director of fashion, nor do I presume to dictate how people shall dress. But I observe some hurtful things; against which, however, it seems futile to protest. Those who practice such things must suffer the consequences. Tight lacing and high-heeled shoes are both prolific of untold suffering and disease. They throw out of normal position vital organs and prevent their performing correctly their functions and thus induce disease, and not infrequently, even if deferred, cause death. I now mention the scantiness of clothing worn by women oftentimes. It is especially noticeable in the young women and girls. Who is to blame for it? The parents of course. Your children are committed to you for your care. You are responsible both for their life and health. You are guilty if you do not exercise a care that disease, due to lack of proper clothing does not set up. Many a beautiful girl has died of consumption and been borne to the grave, followed by the fond mother and friends who bewailed the sad lot of one bereft by "divine providence." It was not a case of divine providence at all. It was rather a case of culpable human imprudence that that brought a life prematurely to an untimely grave. We often hold up our hands in horror at the rapid increase in pulmonary trouble. We are now expending large sums of money for the prevention of this dread disease. I confess I am afraid of it. But, it seems to me we have begun at the wrong end of the matter to rid ourselves of this malady. It is a wonder that there is not more of it the way the girls are allowed to dress or rather to go so nearly undressed, especially in damp and wintry weather. What with bare arms and uncovered chests and low shoes in winter and early spring is to be expected but colds followed by lung disorders resulting ultimately in death? And, mark you, such death is but a case of suicide. And suicide is murder whether it be by a slow or quick process. And the murderer will surely be required to pay the penalty. And somebody's blood is, as surely, to be required at the hands of others because of deaths due to this silly craze for following the fiat of the framers of fashion. The days of human sacrifice are not over. We listen with indignant wonder at the recital of some missionary describing how a heathen woman casts her babe into the river Ganges to be eaten by the sacred crocodile, or another casts her babe into the flames as a sacrifice to the fire god. But, in this, so-called, civilized land, what of the young lives being daily sacrificed to the voluptuous goddess of fashion? I raise my voice in solemn warning and charge

the death of a great many of our girls to this very matter of intemperance in dress.

So much for that. I leave to the doctors to tell us what to eat and how. But suffer this incident. It illustrates a Bible doctrine and a law of health in the matter of eating. Several men were waiting at a village store for the mail to be opened. Behind the stove sat a man who was drunk and apparently oblivious to all about him. Another man, a preacher, by the way, remarked that he was uncomfortable because of having partaken too freely of a bountiful holiday dinner to which he had been invited. The drunkard straightened up in his chair and said, "Brother, You-and-me-is-in-the-same-box." The preacher asked how that could be. "Well," said the drunkard, "yon made a hog of yourself a eatin' and I made a hog of myself a-drinkin', and the Bible says that no drunkard nor glutton shall enter the Kingdom of heaven." There is to much of truth in his statement. We need to exercise a care lest more of us become gluttons and thus hasten ourselves to an untimely death.

So I urge that there is need for temperance in matters of clothing and food. I also call attention to intemperance in the use of tobacco. Cigarettes poison the system, dull the intellect, deaden the moral and spiritual sense and produce early death. The so-called soft drinks vended in almost every store in the country develop an appetite for opiates and intoxicants, and, as is well known, these hasten multitudes of premature deaths.

I merely mention the matter of neglect. Many a disease might be avoided or held in check but for the matter of neglecting these very things we are discussing. By a little neglect disease is allowed to fasten itself on the system and ere long another victim is claimed unnecessarily by the insatiable monster, death.

How may we be saved from temporal death? By so caring for the body that there shall be less occasion for appealing to the physician to remedy some fault we might have averted. But when occasion does arise for calling on the physician then follow his specific directions. By following the laws that are to be observed in your daily experience for preserving your own health and remembering that the body is the temple of the Holy Spirit and is therefore not to be defiled or otherwise marred in its powers.

WHAT HAVE THE HEALTH BOARDS DONE FOR THE COUNTRY!*

By U. L. TAYLOR, Columbia.

I am here to answer the question propounded in this program "What have the Health Boards done for the Country?" Without sickness we would have had no use for Boards of Health. In all ages of the world since the flood, we have been afflicted with diseases. I say since the flood, for before the flood there was no sickness. Then the people lived to be nearly one thousand years old, and died without a disease, or the help of a doctor. We read of but one young person dying before the flood, and he was murdered by his brother. Whether sickness was caused by the many millions of bodies of man and beast decaying upon the earth, at the time of the flood, we do not know. But it is certainly reasonable to so believe. At least after the flood we hear of sickness, and death following the sickness. But the length of human life was very much shortened. Moses lived to be one hundred and twenty years old, and died without being sick. And along about this time, we begin to hear of doctors. We are told that King Asa was diseased in both of his feet, and in his distress he sought not the Lord, but the physicians, and in the very next verse we have the sequel, and King Asa slept with his fathers in the 40th year of his reign. But the age of man continued to grow shorter. King David said, the days of our years are three score years and ten. A little later one of the prophets in highly figurative language said, "is there no balm in Gilead, is there no physician there, why then cannot the health of the daughter of my people be recovered?" Solomon, who succeeded David as King of Israel, mentions apothecaries. He said dead flies cause the ointment of the apothecaries to send forth a stinking savor. And this is not wondered at, but they at least got rid of the flies. But diseases continued to multiply, and that brought about a multiplication of doctors, and notwithstanding the multiplication of doctors, human life continued to grow shorter. At the time I commenced the practice of medicine, about 50 years ago, the average of human life was 33 years. And with all my skill and learning, I could make no material lengthening of the average. But a little later a very great change took place in the practice of medicine. The doctors seeing they were not a success in the curing of disease, undertook to prevent it, undertaking to prove the truth of the proverb, "an ounce of preventive, is worth a pound of cure." Several

notable efforts had before this time been made to ameliorate the condition of the human family, but it was always at the expense of the reputation of the ones that engaged in it. William Harvey had more than three hundred years before this time discovered the circulation of the blood. Physicians for a thousand years had been bleeding their patients, without an idea as to why they did it or where the blood came from. Dr. Harvey did not publish his discovery until he thought there could be no doubt about it, but he did not wait long enough. A great howl was raised about it, a mob gathered and he had to flee for his life to escape the mob. In his absence, the angry populace broke into his home, seized all his furniture and papers and burned them in the street. He remained away from home for six years, and by this time the whole world acknowledged the truth of his discovery and were now ready to welcome him back, and crown him with laurels, while he lived, and strew flowers upon his grave after he died. Two hundred years later, when smallpox was destroying thousands of the human family, and whole cities were being almost depopulated, William Jenner discovered vaccination. There was a great howl and kick made on the part of the great common people about this. It was perfectly absurd. The idea of taking serum from a cow and inserting it in a man's arm to prevent the taking of smallpox, was unthinkable. A mob was raised, and Jenner had to flee from his home, and be a fugitive until the second thought of the people caused them to investigate the subject, and prove the truthfulness of the claim. Then Jenner was a great man, and everybody did him reverence. But not until about 15 or 20 years ago, did health boards begin to organize, and get in their work. But their business was not to treat and cure disease, but to find out and remove the cause. And in doing this they found that nearly all diseases were caused by small and insignificant things. They found that yellow fever and all malarial diseases were caused by the bites of mosquitoes. They found that consumption and typhoid fever were caused largely by the common house fly. They found that bubonic plague was caused by the bites of fleas, and that the fleas were carried from place to place by rats and cats and poodle dogs. And these health boards have been for several years largely trying to eliminate these pests. A few years ago, when yellow fever was in New Orleans, and the local doctors could do nothing with it, some expert doctors from the Marine and Hospital Service from Washington, were sent down there, and they began, not by treating the yellow fever patients, but by driving out the mosquitoes. They succeeded, but not without loud howls from the great common

*Read before the Adair County Medical Society.

people. But the scourge has not been there since. Then, during the Spanish-American war, yellow fever was destroying hundreds of people in the city of Havana. And our Health Boards undertook to rid the city of the trouble. Havana had for generations been a hot bed for yellow fever. It was the starting point of all the epidemics that had ever visited the United States. Our Health Boards began as they had at New Orleans, by driving out the mosquitoes. Before this time strangers could not live there during the summer months. Now it is one of the healthiest cities in all the land. People visit it from all the countries as a health resort, to enjoy the sea breezes, the songs of their beautiful birds, and the perfume of their sweet smelling flowers without a thought of any danger from yellow fever. And then when our country got possession of the canal zone, and undertook to dig a canal through that pestilential country, our medical experts took the lead, and went down to prepare the way, for our army of occupation. They went not with picks and spades, but a full line of sanitary supplies. The French people had undertaken to build a canal through that unhealthy region, but had signally failed. Napoleon Bonaparte, one of the greatest military commanders that the world has ever known, always had, on the eve of a great battle, something inspiring to say to his soldiers, and when his legions were drawn up in battle-line at the foot of the great Egyptian pyramids, said: soldiers, forty centuries are looking down upon you from the tops of those lofty pyramids. There was not a man in that vast army that day who would not have given his life on that occasion for his beloved Emperor. And yet in less than one century, that same French people were driven out of Panama by mosquitoes. And after spending millions of money, and thousands of lives, sold out to the United States. They first killed and drove out the mosquitoes, then dug the canal. Panama is now one of the healthiest countries on the globe. A celebrated English surgeon, now traveling in the United States, whose name I have forgotten, says: "You may talk of your Niagara Falls, and your Mammoth Cave, and your fine buildings in the city of Washington, but the greatest achievement that ever has been accomplished in the world is the transforming of that canal zone from a hot bed of pestilence to a country that is as healthy as any upon the face of the earth.

These are a few of the things that the Health Boards have done for the country. But the hardest fought fight, and the most persistent fight has been made against the great white plague, or consumption. This is the greatest enemy that we have to contend against. More people die from this com-

plaint, than from any other disease. In the last five years statistics show that in the United States alone, 750,000 persons have died from this malady. This is fearful. The health boards have discovered that it is caused largely from sputum from diseased persons by promiscuous spitting upon sidewalks in cities, and in public places in the country, and that the carriers are the common house fly. But in the last two or three years, the disease has been giving way before the persistent efforts of the boards of health. In the last report of the National Tuberculosis Association I find the following: In the last decade, from 1900 to 1910, the death rate from tuberculosis in the United States declined from 196 for each 100,000 persons living, to 160, a decrease of 18 per cent., while the death rate from all causes of death declined only one half as much, or at the rate of 9 per cent. These figures were given out in a statement issued by the National Association for the Study and Prevention of Tuberculosis. They are based on data abstracted from the United States Bureau of the Census, and cover the registration area in the country. The decline in the tuberculosis death rate in the last two years, means a saving of 27,000 for each year.

WHAT HAVE HEALTH BOARDS DONE FOR KENTUCKY?

To answer this question would require more time than I can devote to it this evening. Kentucky stands high up in the scale of public health work. The health boards have driven out nearly all the quacks and charlatans. They have saved the lives of thousands of children by the war they have waged on adulterated milk from tuberculous cows; they have made an unrelenting war on consumption; they have made war on cholera in hogs and chickens; they have furnished thousands of diphtheritic children with antitoxin at a price that the poor can afford to buy it, thus saving the lives of thousands of children. They have appointed health boards in every county to look after the public health. They issue bulletins to all the people, instructing them on these fatal preventable diseases and are ready to meet epidemics wherever they may be found, and are at present in the front looking after the two new diseases which have only recently made their appearance in the state, pellagra and the hook worm disease. But I know more of the workings of the health board of my own county, than in any other. I have been the health officer for this county for the last twenty years. I did not from the beginning, where duty called, know any better than to go. I have for the last ten years been visiting every typhoid fever epidemic that sprung up in the county, and trying to

suppress it, right at the beginning. I have visited every case of smallpox that I could hear of in the county. For the last six years I have visited all the public schools in the county, and talked to the children on sanitation and right living. I have looked into the sanitary surroundings of every school house. I have given directions as to the location of every new school house that has been built. I have for four years visited and fumigated every house where consumptive, diphtheritic, or typhoid fever patients have died. These have not been done by the health officers in the surrounding counties. The difference between me and them is, they wait for the Fiscal Courts to promise them pay, and I go ahead and do the work, and at the same time compel the fiscal court to pay such a salary as will let me live. Now does all this work amount to any good to the community? Casey county pays her health officer one hundred and fifty dollars a year, and, of course, he cannot afford to give much of his time to the public health business. At the beginning of the last decade, Casey county had a population of 15,140, and gained during the decade 335. Adair county in 1900 had a population of 14,888, and gained 1,614. Metcalfe pays her health officer \$50, and had in 1900, 10,000 population and gained 455. Adair's death rate last year was only 13 to the thousand inhabitants, a better showing than can be made by any other community. Columbia's death rate last year was only 11 per one thousand. We have very few deaths among our young people. During the three years that our graded schools have been running, out of a total of 360 pupils, there has not been a single death.

In conclusion, I want you to excuse me for blowing my own horn. I would not have done it, but I had nobody to blow it for me.

SOME FACTS ABOUT SANITATION AND PREVENTIVE MEDICINE.*

By L. F. HAMMONDS, Danville.

I am with you to-night on a mission of health, not to tell you of some great thing that you have not heard, but to impress upon your minds the thing that your doctors have often told you. You have a noble set of doctors in your county, of whom you have a right to be proud, and you should ever be ready to join hands with them in any health movement they undertake, as they are ever ready to do anything that will better the health of your county, prolong your lives, eradicate disease from your county, make you a happier people and decrease their income and save you hundreds of lives and thousands of dollars.

There are many diseases that have no right to exist and should be and can be eliminated from the category of diseases, there are at all times 1,000,000 people seriously sick in the United States of preventable diseases. This state of affairs should not exist but will never be very much better until the medical profession and the people work together, but as it is, the medical profession finds it is handicapped by the people who are, as a rule, unwilling to aid in any way to work for their own interest and to decrease the income of the family doctor. Of all the professions the medical profession is the only one to work against its own interest, and yet at the same time it has to work the hardest to get the people to take their advice.

As I stated before, there are many diseases that should be prevented, and if the people will take the advice of the medical profession, these diseases will be known to the next generation only by history, and as things of the past. Among the many preventable diseases tuberculosis stands at the head with its death rate and expense. This is a preventable disease and has no right to exist as every case depends upon some other case for its existence. Every county should have a sanatorium for the treatment of this disease and many cases, properly treated, would recover and would make useful citizens and happy homes. Those that are incurable would be removed from society and prevented from infecting others, and not until this is done will the disease be eliminated, and when this is done and all cases, as soon as they are found to have the disease, will go to the sanitarium and remain until cured or relieved by death, in a very short time tuberculosis will be a thing of the past.

Typhoid fever is another preventable disease. By better sanitation and better care of those already sick, we can eliminate this disease from our county and thereby save us hundreds of lives and thousands of dollars each year. We should see that we have a pure water supply and also pure milk, as these are the most common source of infection.

One very common and most neglected source of danger is the ordinary house fly, or, as Dr. L. O. Howard, Chief of U. S. Bureau of Entomology, would have us call it, the "typhoid fly." Every case of typhoid should be isolated and placed in a screened room to prevent the passing of flies, as they will carry this disease for several miles.

Malaria is a preventable disease, this can be prevented by proper attention to sanitation. Keep all the stagnated ponds drained, or destroy the mosquito. This can be done by pouring oil on the ponds, and the stock ponds in the community should be kept in proper condition, or better not have any. One very

*Read before the Casey County Medical Society.

common source of infection is the ordinary rain barrel by the side of the house, which is often neglected and the mosquito is allowed to multiply in great numbers.

There are many other preventable diseases, but I have not the time to speak of them all and only call your attention to these few because they are the most common in your community.

How are we to remedy this state of affairs? This is the all important question. Formerly lawyers were employed to conduct law suits, but now all incorporations and shrewd business men employ them to prevent lawsuits. This should be true of the physician. Every family should employ a family physician, not only to treat their sick, but to keep them from being sick, and if this is done much sickness will be prevented and a great saving of life and money, not to say anything of the pain and sorrow. Every county should have a suitable health officer and pay him a sufficient salary to justify him to give his whole time to the work; no man can do his duty as a health officer unless he gives his entire time to the work. I am proud to say that you have a health officer that gives the work his entire time and study, but do you pay him a sufficient salary to justify him to do this? If not you should see that the next fiscal court raises his salary to what is right. The fiscal court in my county went on record (to its disgrace) and reduced the salary of its health officer from \$200.00, what it was last year, to \$150.00 and no county need to expect much from this amount as no one can afford to work for nothing. The best thing the voters of any county can do is to eliminate such men from our fiscal court, as men that have no higher regard for the health of their county should not be allowed to hold office, but should be relegated to the rear with the old fogies and moss-backs.

The people should ever be ready to take the advice of their health officer and help him in any movement he undertakes to better the sanitary conditions in his county; every person should look after the sanitation around his own premises, keep all ponds drained and everything as clean as possible and present, as far as possible, the decaying of vegetation around the premises, and above all keep the back yard in good condition. How many of you have mud and water standing in your back yard? and this even covered with a green moss and has a foul smell? How often do we see a front yard with everything attractive and healthful, and then pass to the back yard only to find the ducks and geese taking a swim in the mud and water. You often hear it said by some members of the family, "keep the front yard clean, but it does not make and difference as to the back

yard." This is not true as the back yard should receive the same attention as the front yard, and oftentimes more, as the sun does not always have the same access to the backyard as it has to the front; the sun is our best friend and we should not be afraid of it and give it access to all parts possible.

If we would live more in the open air we would be a more healthful people. As a rule, we all spend too much time indoors, and sleep with our bed chambers too tightly closed. If we would sleep with every window to our room hoisted, we would be more healthful. A laboratory should be established in every county and should be under the care of the health officer, and any citizen should be permitted to bring water, drugs, food, or anything suspected as dangerous, and this should be examined without personal expense to him. In this way much sickness can be avoided by finding out the source of infection; many old and honored wells are only a source of danger and should be filled and new ones drilled and arranged so as to exclude all surface water, the surface water is laden with poisonous germs. Another source of danger is the ordinary carpet. I long to see the day when they will be a thing of the past and their place filled with painted floors, or removable rugs, the painted floor is the best.

The medical profession has long ago recognized these dangers and the importance of sanitation and have been striving to better them, but so long as they are handicapped they can do but little good.

Whether you accept my message or not, you must acknowledge it as unselfish labor, as I am here at my own expense and the expense of my brethren who live by the treatment of disease, to proclaim the gospel of health and to cut down their income. If you will accept my message and come before your fiscal court with such a force that they will not dare to turn you down, and have them to pay your health officer a sufficient salary to justify him to give the work his entire time, and erect a sanitarium and properly equip it for the treatment of all infectious diseases, in a short time you will save, in the way of doctor's bills and the other expense caused by sickness, more than it will take to build and equip the sanitarium, and many diseases now common in your county will be a thing of the past and many lives and thousands of dollars will be saved.

George M. Gould estimated that the cost of sickness and death in the United States from preventable diseases will amount to \$1,000,000,000 annually, of which amount it is safe to say that you pay at least \$50,000, not to say anything of the pain and sorrow, which is

a great deal more than it would cost to put your county in good sanitary condition.

I hope that your county will soon come to the front and stand as a model to the world for health and sanitation.

PELLAGRA.*

By MONROE PENNINGTON, Bertha.

The scope of this paper will be limited to the etiology and treatment of pellagra.

The microorganism producing this disease and their mode of transmission is as much a mystery to-day as in the eighteenth century, when it appeared in Italy. As early as 1762 Casal attempted to elucidate the causal relationship between the consumption of corn and pellagra, and wherever pellagra has existed since that time, most medical men have attributed it to the use of maize. While many cast about for other causes, one after another of them fall into disrepute, and to-day, we face pellagra in the southern states with the maize product held up as the most prominent factor in the production of this disease. Experimental work done to show the cause of pellagra produces a toxic and a resinous substance of spoiled corn, such as exists in spoiled corn only. To one of these is attributed the relation of maize to pellagra. It also has been established that corn contains more oil than any of the cereals, the amount being as high as 9.5 per cent. Part of this oil being linolein, which is a compound of linoleic acid, readily undergoes fermentation or oxidation. It is interesting to know that cotton seed contains this same oil and that all seeds containing linolein easily undergo decomposition. With these facts in view we might blend the two prominent theories and wage war on both the corn growers of the west and cotton raisers of the south—but when statistics from different states are considered we are reluctant to say that these products are more than contributory factors in producing pellagra. To assert that pellagra is not contagious or infectious because no special organism has been isolated, which produces it, would open up for scientific discussion the question as to whether measles, mumps or scarlet fever are contagious, no organism having been found to produce either of these diseases.

To support the theory of some form of direct transmission we cite seventeen cases in the Baptist Orphanage, at Nashville, Tenn., ten cases in one family of eleven in Waycross, Georgia. One case was diagnosed on Straight Creek, in Bell county, in the spring of 1910, ten months later 50 cases were reported within a radius of two miles. At Wilton, Knox county, one case was found in the summer of

1910, during the next 12 months twenty cases developed within a radius of one mile. Near Corbin, in Laurel county, a woman died of this disease in the spring of 1911, the following fall her six year old daughter developed a severe type of the same. During the summer of 1911, three cases were seen in each of two families and four cases in another in Whitley county. I observed three sisters in the same community, each suffering from pellagra, two of these women had daughters suffering with the same malady. In another instance two sisters were effected with pellagra, one of them had a daughter and a granddaughter likewise afflicted, all three occupying the same house.

Bacteriologists have found that diphtheritic bacilli are best cultivated on a media of blood serum. Typhoid bacilli are best grown on beef bouillon and the spirochaete of syphilis is produced on blood plasma, while pneumococci grow on agar, serum, potatoe, milk or most any of the ordinary culture media. We note the different cultures necessary to produce active microorganisms of different diseases, so it may be understood that linolein oil or other constituents of corn having undergone fermentation or oxidation as it may do in the body, prepares the media which renders the reception and growth of the micro-organism of pellagra possible, making the persons with bad hygienic surroundings and those who consume great quantities of corn products much more susceptible than those whose resistive powers are greater and who eat less of the corn products. We will imagine that this microorganism will multiply outside of the body in warm climate and that it has small power of resistance when subjected to low temperature and that it is wide-spread throughout the community in which it exists. The reason pellagra is not more epidemic in nature, being the high power of resistance maintained by a majority of the people. It does not appear logical to say it is produced by corn products, let them be bread, cornstarch, candy, syrup or cereals, assuming that the corn-products producing this disease are spoiled, as the disease has increased rapidly under the Pude Food law of 1906, since which time all articles of food have been inspected and every effort made to bring them up to the highest standard of purity, so we conclude that there is one mode whereby the disease is transmitted directly from the infected to the susceptible. The investigations now being made in the southern states will no doubt result in the isolation of the micro-organism and demonstrate its effect as Koch did the tubercle bacilli. Klebs and Loeffler did the diphtheria bacilli and Eberth did the typhoid bacilli. Until this discovery is made we will be treated to new and varied causes of the

*Read before the Knox County Medical Society.

disease from time to time, but this shows that active work is being done and we should study all of the literature coming under our observation pertaining to this dreaded disease.

The lack of cooperation keeps many lines of treatment before the profession. If all men who treat pellagra in Bell, Knox, Laurel and Whitley counties would attend and report their cases treated and results before their respective county societies and these societies would compile these reports it would make a tangible base as to results of treatment. I am convinced that calcium sulphide has acted better than any drug I have used in early cases, and think if it is used persistently with good hygienic surroundings and plenty of good nutritious diet, along with such symptomatic treatment as the individual case may require, such as lotions for the skin, palliative treatment for gastro-intestinal disturbances and avoiding excessive exercise or exposure to direct rays of the sun. The mortality will evidently be lower in cases which receive treatment from the first appearance of the cutaneous lesions. I have also found arsenic to be of service when used in the advanced cases of this disease.

DYSENTERY.*

By CHAS. L. HEATH, Lindsay.

Dysentery is a specific febrile disease, marked by inflammation and more or less bowel trouble, accompanied by pain, tenesmus and mucous, bloody stools frequently occur in epidemics, in small infants may, first notice restlessness, inability to sleep as well as usual, nurses very little, and appears to be in distress, vomits milk which has a sour smell. Soon after, or perhaps without, these symptoms, the diarrhea begins with other abdominal symptoms such as swelling, soreness and pain with more or less fever.

In children of more advanced age the disease may come on abruptly, or may be a few days before it fully develops, but usually the doctor does not see the little patient until the mother has exhausted all the family remedies without success, and by this time we generally find a picture that is not hard to read, from the fact that in no other disease do we see such pain and distress at each evacuation of the bowel, bloody mucous often being discharged with considerable pain and as often as 30 to 90 times in the 24 hours.

As it is not hard to diagnose the old time flux of our young days, the treatment is often not such a simple matter. To begin with our patient should have careful supervision during the winter and spring months, so that any irregularities of the alimentary tract may be

remedied before they have attained such headway as is usually the case when we see our cases of flux for the first time.

Now one thing that speaks well for the efforts that have been made by our workers along preventive medicine, is that we are seeing less of such summer diseases and that you don't see so much in the journals regarding these old time dreaded diseases of the country practitioner, we no longer have to wait until frost comes to get relief for our little ones, we begin by having all things in such favorable condition that this disease, so fatal a few years ago, no longer visits our homes with such frequency or fatal result.

When we first see our patient a good plan is to give castor oil and to use colon tube with saline solution at 100 to 105 degrees F., if this is not well borne discontinue, but when bowels are not very active the saline solution once or twice a day will do good. Calomel is good if oil is not well retained, and for the pain and excessive discharges opium in the form of Dover's powder is to be given to effect.

Rx.

Bismuth subnitratezv
Syr. rhei aromaticiziii
Aqua, q.s. adzlv
Sig. One teaspoonful every two hours.

If the bismuth does not turn passages black give one grain doses of precipitated sulphur with each dose of bismuth, also if Dover's powder is given it may be added to each dose as given.

The old time starch and opium will be of service in cases of much tenesmus with small amounts of blood-streaked mucous, for a child under one year:

Rx.

Starchzii
Boiling waterzii
Tr. Opii5 gr.

Repeat in six to eight hours.

The question of feeding our little patients with acute dysentery is of too great importance to try to discuss it in this short paper and I will refer you to the text books on feeding for full directions for preparing and administering food; make a careful study of each case and adopt the diet best suited to the case, but remember that in no place does the old adage that, "a stitch in time will save nine," fit in better than where we use all means at our command to prevent summer diseases of the bowels, especially in infants.

*Read before the Knox County Medical Society.

THE NEW THERAPY OF SYPHILIS.*

By D. H. MCKINLEY, Winchester.

When Metchnikoff and Roux successfully inoculated the higher apes with syphilis in 1903 a new era in the history of this disease was inaugurated. In 1905 there followed the discovery of the specific microorganism by Schaudinn and Hoffman, to which the name of *spirochaeta pallida* was given, but afterwards changed to that of *treponema pallida*. Another great step was taken by Wasserman in 1906, when he introduced his sero-reaction. Our etiology, pathology and diagnosis was now complete, but in the field of treatment much was lacking. The crowning event of this series of brilliant achievements came in 1910 with the production of salvarsan by Ehrlich. It is a wonderful thing when we consider that in the short time of seven years, the whole subject of this disease, which has cursed humanity for centuries was brought from the dark abyss of ignorance and laid bare before the light of modern science. There is nothing more spectacular in medical history. Of all the afflictions which flesh is heir to none has been held in such holy horror as lues, and at the same time none has been so cruelly neglected or so mistreated.

Before the discovery of "606" we had two drugs, mercury and the iodides, while inferior to it in every respect, could still be relied upon to cure practically all cases. But the trouble was that we didn't use the weapons we possessed in the proper way. I feel safe in saying that up to the last year or two probably 90 per cent. of the doctors throughout this country relied entirely upon internal administration. I believe that extremely few cases are ever cured by such indication, and as a proof of its ineffectiveness, I call to witness the vast army of paretics and ataxics, and those hopeless and helpless individuals who crowd our state institutions, who have been fed on protoiodide pills in the vain hope of producing a cure.

Thousands of poor unfortunates have been the victims of still greater mistreatment, being given only syrup of trifolium compound or some syrupy mess of sarsaparilla. I know physicians, enjoying a large practice, who in this present day of supposed enlightenment, never give a syphilitic anything but potassium iodide.

Undoubtedly this disease has been and still is woefully mistreated in many quarters. Mercury, to be effective, should be given in one of three ways—by intravenous injection, by inunction, or by intramuscular injection. The first is impracticable and to some extent

dangerous, the second is efficacious but a dirty and disagreeable treatment, the third I regard as the method of choice, and of all the preparations that I have used for intramuscular injection I prefer a 10 per cent. suspension of the solution of mercury in benzoinol or liquid alboline. Giving on an average of 15 m. once a week. Since the advent of the Wasserman reaction we realize that even after the most energetic mercurial treatment, fully half of the patients discharged as cured are in reality latent syphilitics.

My first experience with "606" was in November, 1910, when I had the pleasure of watching the results attained in a number of cases in New York by Dr. Jno. A. Fordyce. At that time only the intramuscular method was being used. My first opportunity to employ it in my own practice was on January 4th, 1911, when I gave two secondary cases 6 gm. each by intramuscular injection of alkaline solution. The following week a case with pronounced tertiary lesions received the same treatment. Since this time, however, I have used only the intravenous method, employing the apparatus devised by Heidensfeld for this purpose, and have treated the following 33 cases: 1 primary, 1 of malignant syphilis, 12 presenting active secondary lesions, 9 presenting active tertiary lesions, and 10 of latent syphilis of from 6 months to six years' duration. Two of the secondary cases, in both of which mercurials were discontinued, showed a return of a positive Wasserman, one in four and the other in five months. They were given a second dose of salvarsan and mercurial treatment instituted and kept up for six months, the reactions of both have been negative for five months now without treatment and I regard them as cured.

In the malignant case the results were brilliant but temporary. This patient had an infection of four months duration of a most malignant type, with a severe iritis. All symptoms had vanished within a week, when I lost sight of the case, but he suffered a recurrence five months later.

These are the only cases that have shown recurrences.

In none of my cases has salvarsan failed to produce a prompt symptomatic cure and in none have there been bad effects of any sort. I don't propose to bore you with a detailed account of the technique of the intravenous injection, but wish to mention one or two practical points. For instance the introduction of the needle into the lumen of the vein (not always an easy matter for the beginner) may be rendered much easier by dipping the point into sterile olive oil just before we are ready to insert it. I always use freshly distilled water to make up the salt solution, but

*Read before the Kentucky Valley Medical Association, Torrent, June 25-26, 1912.

after the saline tablets have been dissolved in it, I have invariably found little pieces of fiber and particles of extraneous matter. I have used four different brands of tablets and found this trouble with all. For this reason I allow the solution to stand for several hours and then siphon off the top into a flask, which is then sterilized by boiling. Instead of the normal salt solution I have been using a solution of only half strength and find that it is less apt to produce a chill and nausea. With a perfect technique I believe the intravenous administration of salvarsan is devoid of danger, and is the treatment to be employed in all cases unless specially contraindicated. We should not rely solely upon it, however, but should combine with it, either mercurial inunctions or injections of mercury salicylate, and to be on the safe side repeat the salvarsan in four weeks. In this way I believe it entirely possible to permanently cure the average case of lues in from three to nine months. In cases of long standing it is probably advisable to give a course of the iodides preceding the salvarsan, in order to aid in the absorption of infiltrations and opening up the lymph channels, in this way endeavoring to reach the more or less isolated foci of infection. After an intravenous injection a large part of the salvarsan is excreted in the first 24 hours, a small amount in the next 24, while the remainder is stored up in the internal organs, principally the liver, and I wish to call attention to its tonic effect, it is far beyond that of any other drug which we possess. It is nearly always followed by an increase in weight, strength and appetite and a great improvement in the mental and general physical condition of the patient.

What are the contraindications to its use—very briefly they are advanced cardio-vascular degeneration and advanced degenerative changes in the brain or spinal cord.

Given a case of primary lues, what should be the proper method of procedure? First a positive diagnosis should be made by finding the treponema pallidum. Where possible the initial lesion should be completely excised and an antiseptic dressing applied. An intravenous injection of from .5 to .6 gm. of salvarsan, according to size and sex, should be given at once, and repeated in four weeks. Beginning after the first dose of "606" weekly injections of mercury salicylate should be given for four or five months, and then followed by the administration of potassium iodide, not iodolbin or sapodin, but plain old K. I. for one month. All treatment may now be stopped and we can be governed entirely by the Wasserman reaction. If a patient shows a negative Wasserman four to six months after all treatment has been stopped he may be regarded as cured.

Any person who has ever had a specific infection, no matter how long the interval since the initial lesion or what the treatment, should be regarded as a latent syphilitic until proven otherwise by a negative Wasserman.

I mention sodium eocdylate merely to condemn it, it has been widely advertised and extensively employed in some quarters and because of the arsenic contained it does sometimes clear up the cutaneous lesions. But it is in no sense curative of lues and has absolutely no effect on the Wasserman reaction.

From my own experience and from what I have read of the experience of others, I have reached the following conclusions, that salvarsan is by far the most potent remedy we possess for combating specific infection—but that one dose, neither preceded nor followed by mercurials—will cure only a small per centage of cases. That the internal administration of mercury cannot be relied upon, and should be used only in the intervals between the more vigorous courses of inunctions or injections. That the iodide of potash has little or no direct action in destroying the treponemata, but it does cause the absorption of the new growths or infiltrations produced by the spirillae—it is therefore indicated only in the later stages, and that in the Wasserman reaction we have the only reliable means of determining when a cure is accomplished.

PLACENTA PREVIA; DIAGNOSIS AND TREATMENT.*

By T. W. STONE, Bowling Green.

By placenta previa, is meant the attachment of the placenta in the lower segment of the uterus. It varies from a central to a small margin and may be expelled in front of the child.

It was recognized by the earlier obstetricians at that time being called "unavoidable hemorrhage" as opposed to "accidental hemorrhage" which occurs in the course of a normal labor. Its estimated occurrence is 1-1200, but so many are undiagnosed, it is doubtless much greater, perhaps 1-400.

The cause is not clear but we know that any inflammation of the lining membrane of the uterus will predispose to it; the ovum, not finding suitable lodging place in the usual site. Hence the large proportion found in multipara as compared to those in the primipara, for it is in such cases that we more often find endometritis and similar affections. The usual place of fertilization of the ovum is in the fallopian tube and by the time it reaches the uterus its trophoblast become active and

*Read before the Tri-County Medical Society, Bowling Green, April 9, 1912.

it at once burrows into the mucous membrane of the fundal portion of the organ. Should this be delayed until the ovum reaches the lower segment, it is not unlikely that it would attach itself in that zone and cause a serotinal placenta previa. If there is a proliferation of the uterine membrane to receive it, its growth may produce a separation and cause hemorrhage or an abortion. I dare say that a large proportion of early abortions are the result of misplaced placenta and are never diagnosed.

Repeated hemorrhage in the latter part of pregnancy makes an almost certain diagnosis of placenta previa. On examination, the cervix is found boggy and the presenting part can be made out.

The hemorrhage if at term occurs early with unruptured membranes and feeble pains or their absence altogether. Bleeding is more profuse as the pains pass off. During its height it may cease altogether from the pressure of the presenting part on the inter-uterine contents. The fetal mortality is from 50 to 60 per cent, and that of the mother, 10 to 12 per cent, which makes it an exceedingly interesting condition.

The treatment is still a much mooted question and we are looking anxiously for something that will lessen the high mortality. The high death rate is not alone due to the hemorrhage, but also to the complication that arises during and after delivery.

Each case must be treated on its own merits, and according to conditions existing in each particular instance. If hemorrhage is slight rupture of the membranes may be sufficient, the descending part plugging the bleeding vessels; this can be better accomplished by applying the forceps if dilatation is sufficient. The tampon is useful in a few instances, podalic or combined version is more, and Caesarean section has found some ardent advocates since the advent of aseptic surgery.

The recognition that the uterus should be promptly emptied has perhaps done more than anything else to lessen the mortality of the mother.

The danger of placenta previa should be recognized as in ectopic gestation and be treated by prompt and early action, for it is that obstetrician who considers least the life of the child who has the smallest maternal mortality.

The elimination of the sources of infection do much towards keeping down high mortality rate, and it is here that the objection to the tampon has been raised and has caused it to be discarded, almost altogether.

In a large majority of cases, version and a slow delivery is the best procedure. Follow this by prompt control of post-partum hemorrhage by packing the uterus with sterile

gauze, and the administration of saline to remedy the ill effect of loss of blood. I believe that by prompt treatment and meeting complications by the best modern methods that the maternal mortality can be reduced to 5 per cent. Caesarean section will increase the chances of the child over those delivered by the natural passage, but it can only be successfully performed in a well equipped hospital in the hands of competent surgeons and at a greater risk to the mother.

The indications for it are: 1st. When the mother is in good condition and not exhausted by labor or hemorrhage, and is willing to take larger risk upon herself to secure a living child.

2nd. The central implantation and the cervix undilated and undilatable. Early diagnosis and prompt surgical treatment by Caesarean section before the patient is exsanguinated is a Utopian fancy born of inexperience. If we recall our summons to these cases, we will remember that many of these are already exsanguinated when we reach them. We do not have the opportunity of an early diagnosis and, this fact alone excludes a large number of these cases from surgical treatment.

Speaking as I am to very few who have hospitals at hand, and where a competent surgeon can be had, I feel it worth the most to you, for me to dwell on a treatment suitable for the general practitioner.

There are three conditions that should govern our procedure in any case:

1st. The state of cervix; 2nd. The situation of the placenta; 3rd. The degree of hemorrhage. When we diagnose a partial placenta previa with moderate dilatation of cervix, it is only necessary to rupture the membranes and apply forceps and draw the head into the pelvis and thereby stop the flow of blood until delivery is complete. If the os is not sufficiently dilated to admit the forceps the membrane should be ruptured and a hydrostatic bag introduced into the annion which when being properly filled will make sufficient pressure to prevent hemorrhage and at the same time cause more rapid dilatation. Some traction can be made on it if necessary. The bag, like the tampon, is fruitful of sepsis and being difficult for an inexperienced operator to apply has only a small field in treatment.

In cases of undilated cervix with a central implantation of the placenta as soon as the cervix can be dilated, version is the ideal treatment. If it is at term or nearly so, it is usually announced by profuse hemorrhage and the cervix is, as a rule, sufficiently dilated to admit two fingers. I have never seen such a case without there being that much dilation. In this condition increase the dilation by manual manipulation and proceed to do it

version. The cases of central implantation are most serious, from the standpoint of hemorrhage, both during and after labor. Here the proper thing to do is to waste no time with tampons and bags, or any other mode of artificial dilation, but unnnally dilate sufficient to bring down a foot until the knee presents at the vulva and thereby plug with the hip.

After this, delivery should be slow for the lower segment of the uterus is thinned by the placental attachment, making it easy to rupture, thereby adding post-partum hemorrhage from lacerations of the cervix. If hemorrhage persists, gentle traction on the foot may be made, without injury, until dilation is sufficient to complete delivery.

Where the loss of blood is great, you should use saline infusion early. The best time to do this is after you have done the version and while you are waiting for better dilatation. The mortality rates given at the beginning of this paper are based chiefly upon hospital practice, and are greater than those in private practice, owing to the fact that so many patients are brought in who are already exsanguinated and with but little hope of recovery. Many of the children are delivered before they are viable even if delivered alive. However, the mortality is very high and the object of our treatment should be to bring it as low as possible. The shock is in direct proportion to the amount of blood lost, hence anything that will reduce the hemorrhage or build up the patient after it has occurred will fill the most important indications in treatment.

The following suggestions will form the basis of treatment:

1st. Prevention and counteraction of shock.

2nd. Checking hemorrhage.

3rd. Promoting uterine contractions.

4th. Facilitating uterine dilatation.

5th. Expedite delivery.

6th. Prevent accidents and complications.

EARLY DIAGNOSIS AND TREATMENT OF ARTERIOSCLEROSIS.*

By M. M. Moss, Bowling Green.

It seems that the thought that is uppermost in the mind of man is, to live, and extend his longevity to the longest period of life attainable. And the thought which is most repulsive to him above all others is, that he must die. Even when he has long since passed his allotted time of three score years and ten, and his waning vitality has reached its lowest

state of existence he clings with unabating tenacity to the brittle thread that is almost rent asunder, when the dream of his life is still to live. This being true, it is strange that the machinery of life, which is fraught with unparalleled complexity and delicacy of vital structure should be neglected and abused until it has assumed a state of permanent or premature senility. It matters not how late in life the fatal issue may come to a victim of arteriosclerosis, I take the position that his death is premature and that he would have lived many years longer had he taken such precautionary measures as to have prevented or deferred the development of this disease. The disease had its origin perhaps in Adam when he became an old man; since which time it has raged with unabating fury in every country and clime wherever man was found. It has been more disastrous to the human race than all the wars of every country combined, because it has existed every where and at all times. It has claimed more victims by far, than Asiatic cholera. The ravages of yellow fever pale into insignificance from a mortality point of view, when compared to that of this disease. I admit with regret, that the medical profession has been delinquent in its study to this class of patients, or to say the least, we have not given the attention to the early diagnosis and treatment of this disease that its importance demands. I recently met a man seventy years of age on the street and asked him in regard to his health. He said he weighed more than he ever had before and that he had never felt better with the exception of slight shortness of breath; he also mentioned some slight cerebral symptoms. I felt of his pulse and found it to be hard and unyielding. I requested him to go to my office and I took his blood pressure, which showed a systolic pressure of 225. While this man felt secure in his physical condition and it had not occurred to him to consult a physician, he attributed his slight discomfort to increase in flesh and age. He was really entering the stage of broken cardiac compensation and was at that time in imminent danger. Under appropriate treatment the symptoms subsided, and if he will keep himself under the observation of a physician I see no reason why he should not live many years longer. I mention this case to show the importance of not waiting for patients to present themselves for treatment, and how one may be advanced in the disease before he realizes the gravity of his condition. This is not by any means a disease that is found only in advanced age. It is not unusual to find it at any age past fifty. Within the past three years I have had three patients to die with angina-pectoris, all of whom had arteriosclerosis and were under fifty-five years of

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age. I know a lady of forty who has marked arteriosclerosis, she has had cerebral symptoms with evidence of broken cardiac compensation.

As the caliber of the arteries are diminished and the elasticity of their walls impaired, a greater force is required on the part of the heart to propel the blood through the arterial tree. This demand is met by a compensatory hypertrophy of the heart muscles as would be the case in any part of the body where a group of muscles were required to do extra work over a long period of time. So gradual is the process that the patient for a long time is not aware of the pathological condition that is going on within his system and which is bringing about gradually, irreparable changes in his vital organs; Hence, arteriosclerosis is a disease, the early stages of which is without symptoms, of which the patient is aware, and for which he is not liable to consult as until the disease is far advanced. This being true, it is our duty, and one I fear we have sadly neglected, as guardians of the health of the people for whom we practice to impress on those whose ages are past fifty the importance of an early diagnosis of arteriosclerosis. We should explain to them the frequency of its occurrence and make them understand the disastrous results that awaits them in their declining years, should they neglect having an early diagnosis made and receive appropriate treatment. As the early stage of this disease is without subjective symptoms, we are almost sure not to make an early diagnosis if we do not request the patient to be examined, and with timely advice and treatment we can very much enhance his prospects to live to an advanced age. Hardened arteries, increased arterial tension, left ventricular hypertrophy and marked accentuation of the aortic second sound, form a group of symptoms which leave no doubt as to the existence of this disease. In this disease as in the case of all others, prophylaxis is of the highest importance. To be successful in this we must have the co-operation of the public; and we cannot hope to secure their hearty cooperation unless we appeal to their intelligence. We should teach them the evil effects of the excesses of life and the disastrous results that follow in their wake, should they so continue to indulge. As early impressions are the most lasting, I believe that children should be taught in their schools that the human system is a delicate organism and requires the greatest care and attention that it may subserve the best purpose. That it is very susceptible to abuses in the way of excesses in the manner of living, which is undoubtedly the cause of so few people living to an advanced age. I do not believe the State could make a more judicious expenditure of money or conserve life

to a better purpose than to support a journal edited by experts on prophylaxis, and sent into every household, teaching people how to live, to avoid this and other diseases. There will come a time, sooner or later, in the history of these cases, when compensation will no longer meet the demand placed upon the heart, because of high blood pressure, at which time the left ventricle, because of a lack of force, is unable to completely empty itself, at each pulsation there is a residue, at the same time the left ventricle is receiving its normal amount of blood from the left auricle and there can be no escape backward as long as the mitral valves are intact; as a consequence the accumulation in the left ventricle becomes excessive and dilatation without treatment inevitable. If the dilatation is interrupted there develops a relative insufficiency of the mitral valve with regurgitation which is followed by a train of symptoms usual in broken cardiac compensation. With this it can be seen that the most important indication to be met especially at this stage is high blood pressure. It is too often the case that patients continue with this disease undiagnosed and untreated until they reach the stage of broken compensation, when we have at our command remedies that will prevent it or at least defer its development to a late period of life. I would enter a protest against those who would deery the use of drugs in this disease. For in all of my experience in the treatment of diseases, I have never met with more brilliant results, where the heart was not irreparably injured and as a consequence other organs seriously damaged. In the treatment of these cases each case must be a law unto itself. The same case will require a different treatment at a different stage. We must realize that we have a delicate and complex organism which is functionally impaired and which requires judicious adjustment. One of the causes of high blood pressure, as has been mentioned, is due to the diminished caliber of the blood vessels. In the reduction of high blood pressure we have a reliable remedy in nitroglycerine which has a two-fold action, that of increasing the heart's action and at the same time dilating the peripheral vessels. In the dilatation of the peripheral vessels one of the most important factors in maintaining high blood pressure is removed. While the effects of nitroglycerine is transient and will not last more than thirty minutes or an hour, the relief it affords the heart by dilating the peripheral vessels and giving more space for the blood to be contained in the arterial system, thereby enabling the left ventricle to completely empty itself at each systole, gives a chance to bring into action its reserve force and maintain compensation. This will be the case even though the brief

periods of relief from high pressure be experienced three or four times during the twenty-four hours of the day. The relief experienced from the use of the vaso-motor dilators sometimes extends over a long period of time after the withdrawal, due to the fact that during the time of removal of high pressure the heart has regained a great deal of its original tone, which enabled it to maintain compensation sometimes for quite a while. It has been my custom when I first see these cases to put them on 1-100 gr. of nitroglycerine in tablet form to be taken every four hours and continue this for a week or ten days, at the expiration of which time the blood pressure will usually have been reduced to practically its normal standard. I then put him on 3 1-2 or 4 grain doses of nitrate of soda, to be given three times a day and continue about three or four weeks, varying the size and frequency of doses according to the results obtained. If at the expiration of this time his blood pressure is within the neighborhood of normal, I put him on from 5 to 10 grains of iodide of potash to be given three times a day and continued for six weeks or two months. At this time if the blood pressure is under control, I withdraw all medicines given for this purpose and watch for the return of high pressure. In our eagerness to control blood pressure we should not lose sight of the fact that the patient's general condition requires careful consideration, that his nutrition should be maintained to its highest standard. The food taken should be at regular intervals, and not in excess of his powers of digestion and assimilation. This amount is highly important, it is equally as important that he should not receive more. Bodily fatigue and over-exertion should all be avoided. While moderate exercise, when the blood pressure is under control is beneficial, he should turn over his active business duties and care to others and at all times abstain from over-mental exertion. He should curb his ambition to excel in whatever line of business he has chosen to follow and content himself in the sphere of mediocrity. If we can convince him that in this he chooses between life and death, we may succeed in getting him to take our advice and he may live to an advanced age, otherwise a fatal termination is only a matter of a short time. To illustrate the beneficial results obtained from treatment, I will mention the case of a gentleman who came to my office about six months ago. He was seventy-six years of age. For several days prior to this time he had experienced a numbness on the entire left side of his body, the reflexes and sensations were intact, the motor functions were somewhat impaired, he suffered considerably with vertigo, had partial aphasia, with cramps in his legs at night. His arteries were hard and

he showed a systolic blood pressure of 240, at the expiration of ten days under the nitroglycerine treatment his blood pressure went down to 180. I then put him on nitrate of soda which he took for three weeks, showing a blood pressure at this time of 160. I then put him on the iodide of potash which he took for six weeks, at the expiration of which time his blood pressure was still 160, which is not high for a man of his age and condition. It has now been between three and four months since he has received any treatment. He is still relieved of the symptoms from which he suffered. While on blood pressure I wish to emphasize the importance of the use of the sphygmomanometer as we have no other means of determining correctly the amount of pressure. We can much better afford to dispense with the thermometer in fever than we can with this instrument in the treatment of arteriosclerosis. Digitalis has a two-fold action on the circulatory system, that of increasing the heart's action and contracting the arterioles, both of which are contra-indicated in high blood pressure; yet it may be given with decided advantage with failing ventricles and low blood pressure. It is best in these cases to overcome peripheral resistance by administration of nitroglycerine. It is claimed by Baldfour and others that digitalis cannot be safely given to senile hearts without simultaneously unblocking the arterioles.

ASCITES; DIAGNOSIS AND TREATMENT.*

By F. E. McCann, Gold City.

The symptoms of ascites briefly are: History of some heart, kidney or lung disease. There is an accumulation of fluid in the peritoneal cavity, on percussion we get dullness in the flanks with central tympany, changing with change of position of patient. In most cases fluctuation waves are noted on bimanual manipulation. In the female the vaginal vault is encroached upon as the fluid accumulates. The aspirated fluid in ascites is transparent, of low specific gravity, generally below 1012 with small amount of albumen. In rare cases the fluid may be white due to leaking of chyle into peritoneal cavity.

A number of pathological conditions may simulate ascites and thus complicate the diagnosis.

In examination of a suspected case the bladder should be emptied, thus eliminating a distended bladder as a complicating factor.

Hydronephrosis, develops more on one side with pain and tenderness in region of kidney.

In chronic peritonitis with effusion the

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fluid is more limited, change in area of dullness with change of position less marked, due to adhesions. There is also tenderness and the fluid contains more albumen and is of higher specific gravity.

Of all the conditions that require a close differential diagnosis, from ascites the ovarian cyst is the most similar. In cyst the enlargement of the abdomen increases in height rather than breadth as does ascites. One side of the abdomen distends more than the other and the navel is less prominent.

In ascites, percussion gives dullness in both flanks with central tympany. In cyst we seldom find dullness in but one side with dullness in the center of abdomen also. The upper margin of the dullness in cyst is convex while in the condition under discussion we have a concave line.

The change of position of patient does not cause so marked a change in position of fluid in cyst.

On examination through the vagina we find no bulging on its walls, the uterus seems drawn up and is not so movable.

If the fluid be withdrawn and subjected to chemical and microscopical examination certain differences will be found that almost clinch the diagnosis. In ascites the specific gravity is less than 1012 while in ovarian cyst the fluid is always 1020 or over. In the ascitic fluid we have less albumen than in the other.

The microscope reveals great numbers of granular fatty cells, cholesterol plates and small pale granular cells in the fluid from ovarian cyst. The small granula cells or "ovarian cells" as they are often called, are considered diagnostic.

Some consider the treatment of ascites is solely the treating of the underlying condition. This is well and good and is our first duty to the patient but what I wish to give most time to is the condition itself.

It has been my good fortune to treat several cases of ascites since entering upon practice, and the treatment I give has acted best for me in these cases. The amount of fluid ingested is limited, and a rich albuminous diet advised. Iron phosphate to increase the nutrition of the blood and calcium lactophosphate to increase the strength of the cell walls. The bowels are cleansed with saturated salt solution.

When the amount of fluid is increasing rapidly compound jalap powder with bitartrate of potassium or elaterium is prescribed to produce free watery catharsis, the patient being watched closely for signs of exhaustion. I have used apocynin gr. 1-3 every two hours with fine results in cases not too far advanced. The nice action of this drug has given it

the name of vegetable trocar as you remember.

When the amount of fluid is great enough to cause discomfort the trocar and cannula is used to remove a portion of the fluid.

A better method now used extensively is maintaining drainage by inserting a catheter or drainage tube, fixing in place by zinc oxide adhesive. The tube may be clamped by forceps to permit removal of fluid at will or if patient is confined to bed the tube is allowed to drain into the proper utensil. This kind of drainage can be kept up for weeks, if the circulation remains good. Improvement of the underlying condition has resulted from this treatment in many cases.

In ascites from hepatic cirrhosis the surgeon has benefited a small per cent. of cases by establishing better drainage between the portal and systemic circulation by attaching a piece of omentum about two inches square to the abdominal wall, with catgut. Also adjacent surfaces of the peritoneum over the liver have been scarified and made adhesive to produce this result.

THE PRACTICAL, CLINICAL ASPECTS OF ANAPHYLAXIS.*

By N. C. WITT, Franklin.

Before dealing with the practical clinical side of anaphylaxis we will devote a few moments to a definition of the term and to its theoretical explanation.

Its meaning in the simplest form, is something antagonistic to the protection of the animal.

Rosenau and Anderson have been the most prominent investigators of this phenomenon. They found that by injecting an animal with serum from another animal a hypersensitiveness was produced to the extent that a subsequent injection of the same serum, even in less quantity than first used, would result fatally to the animal.

The reaction was specific—that is, a rabbit injected first with serum from the horse was rendered sensitive only to horse serum, receiving with impunity, initial doses of serum from any other species of animal.

Further research proved that the reaction was due to the protein elements in the serum, no other principle causing anaphylaxis. Egg albumin was used with the identical result. It is possible to sensitize an animal to many kinds of protein at once, either by injecting them simultaneously or at different times. The initial dose is termed sensitizing, the second, intoxication. The period of time between these, or incubation period, is from 5 to 15

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days, depending upon the animal's susceptibility more than size of dose.

Considering now the practical clinical features of anaphylaxis, we find that serum therapy is responsible for its place among the scientific facts of present day medicine.

At first any ill effects following the use of serums, were attributed to the anti-toxic bodies in them instead of to the serum itself. We speak especially of diphtheria antitoxin because it is representative of all the serums and too, is most universally employed.

Up to 1909 there were 22 recorded cases of sudden death following injections of diphtheria antitoxin.

Donaldson claims that we meet with some degree of anaphylaxis in about 20 per cent. of our patients but that 80 per cent of the serious cases are reinoculations rather than primary injections. It is a singular fact that asthmatics and individuals possessing a susceptibility to the odor of horses constitute practically all of the cases exhibiting intolerance to initial doses of diphtheria antitoxin.

SYMPTOMS OF ANAPHYLAXIS.

These vary from a mild urticaria to the most alarming manifestations, culminating in some instances, as has been stated, in sudden death. The respiratory centers seem to be especially involved, the heart continuing its action after respiration has ceased. The breathing simulates that of a severe asthmatic attack—may have rigors and convulsions or a state of coma ensue. Local symptoms are usually slight though sometimes have following quickly after an injection, widespread urticaria, edema and cyanosis of the face.

Treatment is principally prophylactic as anaphylaxis shock comes on so quickly we don't have much time to act.

The state of hypersusceptibility brought on by a sensitizing dose of antitoxin lasts ordinarily for two or three years, then gradually diminishes. It varies with individuals and amount used at original injection. So after three to five years we could, if necessary, safely reinoculate. Better still is to use an antitoxin the second time which has been derived from another species of animal.

Litterer uses in his immunizing work, antitoxin made by him from sheep and rabbit serum. Then any time subsequent to this the patient can receive safely a dose of the horse serum antitoxin.

For asthmatics and those who have been inoculated previously unless we can get a different kind of serum, the scratch test of Dr. August Calk is the logical procedure: Rub a small quantity of the anti-toxin into a scratch on the patient's arm—like the Von Pirquet tuberculin reaction—if there follows

a severe local or systemic reaction, its introduction into the body in full doses is contra-indicated. This is applicable only to immunizing work, where patient has been exposed. An active case we think should be given it, and the risk taken.

Netter recommends calcium lactate, grains 15, on day of injection and for two days following to prevent anaphylaxis symptoms and to relieve them when present. Litterer advocates trional and charcoal hydrate as preventives to the shock while he has gotten best results from hypodermics of atropine and adrenalin chloride as regards mitigating the shock once it is established.

A concentrated antitoxin should always be employed. Get less of the serum in this way and should also insist upon fresh antitoxin as the more concentrated loses its value quicker than that not so powerful.

Investigators the world over are attributing various diseases to forms of anaphylaxis. Among the more notable are pellagra, hay fever, mucous colitis, eczema and others.

We are all familiar with the luckless individual who at some time during his childhood becomes ill through partaking of, or over-indulgence in, some edible and can never eat of it again. H. N. Cole cites a particularly interesting case of a man aged 47 who became violently ill after eating buckwheat cakes. Dr. Cole vaccinated him with buckwheat flour using as a control, wheat flour. Within a few minutes he experienced a general depression; areas of edema and urticaria formed about the buckwheat injection, the other remaining absolutely normal.

From a practical viewpoint, we believe that a better understanding of anaphylaxis will be of great value in the artificial feeding of infants. Drs. Pisek and Pease in discussing the intolerance of milk by certain children and the resultant anaphylactic shock on their taking it, says: "It being impossible to sensitize an animal with its own proteins, a quick recovery would be expected if these children were placed on human milk which in fact is usually the only method by which they can be saved."

Grinnan points out the fact that many children do well on cow's milk for a week or ten days, the incubation period for serum sickness and after that time begin to have trouble.

We have all encountered instances where the babe would thrive on some one brand of infant food for ten days or two weeks, then not do so well until another had been substituted.

In conclusion will say that anaphylaxis is not responsible for all the ills of mankind, but we do believe that a more thorough realization of its possibilities together with a better

knowledge of measures to prevent and combat its harmful influences will result in the alleviation of much suffering and a saving of life.

ACUTE INTESTINAL OBSTRUCTION.*

By W. A. GUTHRIE, Franklin.

The causes of intestinal obstruction are various, and the obstruction may be complete or partial, acute or chronic. It may occur at any portion of the intestinal tract from the duodenum to the rectum. It may be either congenital or acquired.

But whatever may be the character of the obstruction, the one fact that predominates all considerations relative to treatment is, *it is a mechanical obstacle.*

A simple reference to the schedule of causes revealed by postmortem, establishes this fact and demonstrates as well the utter uselessness of medical measures.

In discussing acute intestinal obstruction it is necessary to take into consideration both the pathological anatomy and the clinical aspects of the subject and study the relations of one to the other.

What, then, has pathology taught us as to the causes of acute obstruction?

A careful collection of a large number of cases examined postmortem has shown that one of the five following causes is responsible with rare exceptions for acute obstruction.

1. Internal hernia.
2. Twists (volvulus).
3. Bands.
4. Intussusception.
5. Gallstones.

So constant is the relationship between acute cases and those causes that we can say with confidence that any given case is due to one of them.

In these cases the symptoms come on suddenly in a previously healthy individual, and are so strikingly characteristic that their significance can scarcely be overlooked by the well-informed practitioner.

The attack is sudden and acute. Pain is paroxysmal, central and fixed. Vomiting sets in early, first of the contents of the stomach, then of the duodenum, then of the small intestines. The patient becomes faint, pale, and markedly collapsed; constipation is absolute, not even flatus escaping from the bowels. Distention of the abdomen rapidly takes place, and distended coils of the intestine may often be seen and felt. The urine may be scanty and even suppressed.

It will be seen that these are the symptoms of acute strangulated hernia. There is the

same interruption of the onflow of the intestinal contents, the same obstruction to the blood current, the same disturbing and depressing effect upon the nervous system, the same violent peristaltic action in the endeavor to overcome the obstruction and push on the obstructed contents, the same paroxysmal pains, and eventually the same fatal result from precisely the same causes.

No doctor with the slightest conception of the true nature of the difficulty in acute strangulated hernia would think of overcoming it by giving purgatives, whose effect could only be disastrous, goading the intestines, already excited to their utmost, to increased and utterly useless peristalsis, aggravating the pains and suffering, and hastening the collapse which ends in death.

Nor could we expect, by the administration of opiates, in a case of strangulated hernia, to release the constricted intestine.

When, therefore, we are confronted with a case presenting such a group of symptoms, there can be no doubt as to the diagnosis. A dire disaster has befallen the patient. Death confronts him surely, and only the celerity, the courage, and the skill of the surgeon can rescue him from its grasp.

The bowels do not move. Shall we give purgatives? Already the bowel is making frantic efforts to force the blockade. Shall we stimulate it to more furious efforts to accomplish the impossible? No! A hundred times, no! It would be gross malpractice.

The patient suffers great pain. Shall we give opiates? If it is used only as an adjunct to annul pain, to relieve collapse, to restore the action of the kidneys; if it is administered for these purposes only, while the surgeon prepares to do his work, we may say, yes. If it is given with any curative purpose, then again No! emphatically, no! We but invite euthanasia. The patient, relieved of his suffering, is deluded with the idea that he is doing well. The doctor, no longer assailed by the cries of his patient, too often hesitates and delays, and the golden moments slip by during which the patient might be rescued from the otherwise inevitable doom. When the diagnosis is once made, every hour of delay is compromising the safety of the patient.

The bowel is damaged, peritonitis sets in, and collapse ensues, and the patient dies in spite of the delayed operation.

When the diagnosis of obstruction is made, coeliotomy is the only thing consistent with the diagnosis. If there is any doubt, an exploratory coeliotomy should be done to relieve that doubt.

It is scarcely worth while to discuss certain measures that are advised in these cases. If what use is irrigation or lavage of the stomach, except for putting the patient in better condi-

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tion for the operation? Or distention of the colon with fluids, except for the same purpose? Tubage of the colon is a delusion, and manual exploration of the rectum a bit of brutal manipulation rarely justifiable. Taxis and nirsage, too, in my opinion, is useless.

Compression of the abdomen is a waste of time. None of these are curative and but serve to divert the attention from the one thing and only thing that can relieve the difficulty.

I am thus earnest in advocating early operation in these cases because I have seen them treated by the most powerful purgatives; by the administration of a quarter of a pound of liquid mercury, by delay extending over days, until the onset of peritonitis, the moist clammy skin, the hiccough, the stercoraceous vomiting, and the quickened pulse proclaimed any operation useless.

A few words must be said in this connection in regard to the differential diagnosis and treatment of acute intussusception. For, while it presents the usual symptoms of the obstruction of the bowels, there are certain symptoms peculiar to this condition.

By the term "intussusception" we mean inversion or prolapse of a portion of the bowel into the lumen of the part immediately adjoining. No portion of the intestines is exempt from this accident, though the relative frequency varies in different portions of the bowel.

In the inversion of the finger of a glove we have an exact representation of what takes place in intussusception, except that in the inversion of the bowel the mesentery is carried in with the intussusception.

The role played by the mesentery is important. As the invagination increases, the traction upon it increases, the tumor of which it forms a part is rendered somewhat crescentic, the pressure upon the lumen of the bowel is increased, and the facility of its reduction greatly interfered with.

The most frequent variety is the ileo-caecal, next the enteric, then the colic, while ileo-colic is the least frequent.

It is well to remember that intussusceptions occur in the dying. But as they give rise to no symptoms during life—indeed, are discovered only in post-mortem, they do not concern the surgeon. The absence of all indications of congestion or inflammatory action and the facility with which they can be reduced render diagnosis post-mortem easy. In intussusception the constipation is not so absolute except in very acute cases. A certain amount of diarrhea at the onset is frequent in a large proportion of cases, constipation becoming complete towards the close of the case.

In consequence of the great engorgement of

the invaginated portion of the bowel a certain amount of blood is found in the stools.

Tenesmus is a striking and usually an early symptom, and the occurrence of marked tenesmus with bloody mucous in connection with other symptoms of obstruction is almost pathognomonic. It is often mistaken for dysentery.

Vomiting is usually not so marked or distressing a symptom in intussusception. The presence of a tumor formed by the invaginated bowel can, in nearly fifty per cent. of the cases, be felt. It can more frequently be recognized in children than in adults, and is sometimes sausage shaped. It is most often to be felt over the transverse and descending colon. When it can be found it is a great aid in diagnosis.

As to treatment, I have succeeded in relieving quite a number of cases by distending the lower bowel with air or gas. I believe that an early resort to this method, before adhesions between the different layers of the peritoneum have taken place, will often be successful. Failing in this, an early resort to coeliotomy is demanded to reduce the invagination. This is much more readily accomplished before the great engorgement of the invaginated portion has taken place and peritonitis with adhesions of the peritoneal folds has set in.

The reduction of the invagination is best accomplished by a process of pushing the intussusception out from below while slight traction is made from above. A direct pull upon the invaginated portion of the bowel is apt to lead to tearing of the walls of the intestine, and the danger is greater the longer the invagination continues.

Obstruction in some of its forms is by no means infrequent, nor is the diagnosis always easy. In fact, judging from the injudicious treatment adopted in many cases, we must believe that the true condition is not recognized, or at least not appreciated in many cases. Post-mortem investigations have thrown a flood of light on these cases, and every well-poster practitioner should be familiar with their pathology.

While it is desirable to make a differential diagnosis as to the clinical cause in every case, it cannot be expected to do more than approximate the special cause in a given case. Nor should it influence the course to be pursued.

The suddenness with which appendicitis develops, the severity of the pain, the tendency to collapse, and the occasional vomiting might mislead the practitioner and lead to some confusion as to the diagnosis between obstruction and that disease. A consideration of a few points of difference may be of interest.

1st. Appendicitis is an inflammatory af-

fection. In obstruction inflammation is secondary.

2nd. Peritoneal irritation developed in appendicitis often causes great tenderness all over the abdomen; most marked over the region of the appendix, and later receding until it is limited to that region. Pressure over the abdomen in obstruction often adds to the comfort of the patient.

3d. The pain in appendicitis is more continuous and localized. In obstruction it is central and paroxysmal. Vomiting in appendicitis is by no means constant. In obstruction it is rarely absent.

In conclusion, I wish to make three positive statements in regard to acute intestinal obstruction.

1. Purgatives are absolutely not to be used in any case of acute obstruction.

2. The administration of opium as a remedial agent is to be strongly condemned.

3. Obstruction of the intestines is strictly surgical, and demand surgical measures for their relief.

DIETETICS IN TYPHOID FEVER.*

By D. G. SIMMONS, Adairville

The subject of dietetics is an important feature in the treatment of all diseases, and in none, perhaps, more than in typhoid fever. Indeed, until the cause of the disease shall have been more definitely established the proper selection and regulation of his food will naturally stand at the head of remedial agencies, to the end that his strength may be conserved and he be thus the better enabled to withstand the ravages of the long drawn out disease and reach the goal of health.

While I do not by any means wish to be regarded as a medical nihilist, which has recently been rather fashionable, especially among our respective friends of the scalpel, and while I fully recognize the necessity of drugs to meet the varying symptoms and conditions observed during the course of the disease, the use of drugs is only one of the remedies in the doctor's armamentarium, and judiciously used diet is another perhaps even more potent remedy in the successful management of typhoid fever. "A system of practice which assumes to substitute medicinal dynamics for the *vis medicatrix naturae* must be added to the list of bygone medical delusions."

There are two main purposes subserved by the use of food, viz.: First, to provide heat and energy, and, Second, to maintain a constant supply of new cells to supply the loss sustained by cell destruction going on in all

the tissues all the time, in sickness and in health. The continuance of life depends on the maintenance of both these functions. When heat fails, life is extinct, and when dead cells are not constantly removed and their place supplied by living cells, flesh and strength both melt away till death ends the scene.

The wonderfully ingenious and very interesting processes through which the food must pass in subserving these purposes of maintaining heat and renewing tissue are beside the question, and are not necessary to be considered in this connection.

There are certain classes of foods which are especially adapted to the production of heat and energy, and certain other classes are more especially adapted to the maintenance of tissue integrity. One of these functions is, as necessary as the other. Neither can be dispensed with. Hence a diversified diet is necessary. We must have heat and we must provide for tissue loss. In making selection of food to subservise both these functions, especially in typhoid fever, in which the powers of vitality are low, it is especially necessary to select those articles of diet which accomplish the purpose in view most effectually, and at the same time with as little irritation and as little tax on the digestive forces as possible. It may be urged that there is already too much heat in typhoid fever, but we must bear in mind that it is much better for the patient to obtain his heat from the proper use of carbohydrates than through tissue destruction, which is the only alternative if carbohydrates are not furnished.

The heat producing foods—the hydrocarbons and carbohydrates—are found in their best expression in starches—as found most commonly in bread, cereals, potatoes, rice, etc., also in fruits, fats, sugar and the various forms of alcohol.

The tissue forming foods—the albuminoids or proteids—are found most typically in meats, eggs, beans, cheese, etc. Some articles of diet contain more or less of both characteristics—both albuminoids and carbohydrates—one or the other feature usually predominating; such, for instance as milk, and bread made from the whole grains.

Out of the numerous articles found in these two classes of nutrients it is assigned to me to select such as are best suited to the requirements of the typhoid patient in his lame and lowered condition of vitality and organic function. The first and main purpose, of course, in making a selection is to give preference to those articles least irritating and most easily digested and assimilated; then the question of quantity and frequency of administration must be considered.

The consensus of opinion of the best med-

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ical writers, as well as a personal bedside observation covering a period of fifty-two years, justifies me in the conclusion that pure, cool, sterilized milk in its various forms deservedly stands at the head of the diet list. It subserves the double purpose of furnishing both heat and tissue cells, and is the most easily digested of all food. It is the sole nourishment for the first period of infancy in animal life, and there is nothing that successfully takes the place of the mother's milk when her nursing children are sick. I am aware of the fact that for some years past there has arisen a prejudice against its use in this and other acute febrile diseases, but I am glad to see that the best and latest published authorities are endorsing its use, and have either never shared the prejudice against it, or are returning to its use. If sweet milk is used it should be fresh unskimmed milk, and to provide against the possibility of an excess of acid in the stomach or bowels, which would convert it into a cheesy mass, the milk should be mixed with about 10 per cent. of lime water, which doesn't alter its taste or nutritive properties. Personally, however, my preference would be buttermilk, the light organic acid in it usually imparting a refreshing taste to it. I once persuaded a young man with tuberculosis to use buttermilk. He said he didn't love it and never could drink it. He was induced to try it, however, and I am safe in saying he used barrels of it before his death. The adult should use from two to four pints during the twenty-four hours, giving it about every three hours. The alvine discharges should be inspected daily by the doctor, and if any curds are passing undigested then the quantity should be reduced, or if necessary, withdrawn for a while.

The patient should have plenty of cool, pure water. It is cool and refreshing, and favors the functional activity of all the organs of elimination.

The next most useful and innocent article of diet is uncooked egg—albumin. It is a pure albuminoid, is nearly always acceptable to the stomach, and entirely unirritating. It is best mixed with a pinch of salt, or a little orange or lemon juice, to overcome the fresh taste of it. The whole egg may be given in the later stages of the disease, either raw or soft-cooked. As a tissue builder it is unrivalled.

But in order not to disgust the patient's taste and wear him out on one unvarying bill of fare, it is necessary to vary the form of food or its method of administration. The milk and albumin may be combined, and if the patient should desire it, a little sugar may be added. The jellies are usually well relished, are well borne, and furnish a good force food. In place of using milk, continuously

day after day, with which the patient is likely to tire after a while, it may be alternated, day and day about, with meat broths, the meat well stewed down, and the broth slightly thickened with toasted crackers crumbled into it. The crackers should always be toasted. Sometimes a relish may be maintained for all the best adapted foods by alternating them every three hours. For instance, milk alternated with egg albumin, three hours from one to the other, or either one of them alternated with the meat broths. Milk toast may be given at breakfast by way of variety. A well relished and very nourishing combination, peculiarly well adapted to the period of convalescence, when the pulse is weak and the heart is feeble, is egg albumin mixed with unskimmed milk and about eight per cent. of good whiskey. This to be sweetened to suit the taste of the given patient.

The doctor is always importuned and frequently harrassed by the patient's constant demands, during convalescence, for more food and for unwholesome food, but the prudent doctor should remain firm and take no chances. Every doctor can recall one or more cases in which leniency proved disastrous. During convalescence a baked apple is admissible, and is nearly always well relished. The same may be said of stewed fruit if the fruit was well ripened before it was dried. Potatoes, baked with the skin on and just cooked enough to be mashed, thus allowing the steam to escape and leaving the potato dry and mealy, is one of the best of the force foods, and is well adapted to and well relished by convalescent patients. This list embraces a sufficient variety to cover the period of early convalescence, say two weeks after the temperature has decreased to normal. Great care should be observed to avoid returning to full feed too soon. I saw the importance of this in a recent epidemic of typhoid fever in and around my town, in which several patients suffered a relapse from over-eating too early in convalescence, thus prolonging their disease from one to several weeks.

THE IMPORTANT ETIOLOGIC FACTORS IN THE GASTRO-INTESTINAL DISEASES OF CHILDREN.*

By C. L. VENABLE, Franklin.

The study or theory of the causation of any disease is of the utmost importance to the physician. And when we begin to realize the toll of death each year from gastro-intestinal diseases of children it is indeed fearful. The importance of diarrhoeal diseases in children

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can best be appreciated by reference to the following table, showing the mortality of these diseases in children under two years of age, as compared with that from certain infectious diseases for all ages. This table is for five years:

Total Deaths.	
Measles, all ages	3,378
Scarlet fever, all ages	4,152
Pertussis, all ages	2,000
Typhoid fever, all ages	3,523
Diphtheria, all ages	10,227
Total deaths from five diseases	23,330
Diarrheal diseases, under two years	26,563

There are several important underlying factors upon which diarrheal diseases depend. Their great frequency belongs to the first two years of life; after this time a notable diminution both in frequency and severity is seen, and a fatal outcome is relatively rare. The extreme susceptibility of infancy is due to several causes. The digestive organs are severely taxed to provide for the needs of the growing body. The mucous membranes of the gastro-enteric tract is very delicate in structure and has not much resistance; it is constantly exposed to injury by irritation and to infection. The next most striking fact about diarrheal diseases is their prevalence during the summer months, or season. This is graphically shown by the above table, the enormous increase in mortality does not have reference to any single form of diarrhea but to all forms.

While diarrheal diseases are especially frequent in cities and among the poor still they are not essentially diseases of the city or of poverty; severe, and even fatal cases, are met with among all classes and in all places. Diarrheal diseases are not essentially filth diseases; yet their frequency and severity are both increased by want of cleanliness in apartments and the persons and clothing of infants, especially the napkins, chiefly because these lead to a contamination of the food. Poverty and bad surroundings predispose to diarrhea in summer just as they do to other forms of acute disease in cold season. But more important still is the sort of care that the infant receives. Intelligent care even in very poor surroundings may enable children to escape serious diarrhea in summer. This result is due to not only the care of the person but includes intelligent management of feeding without which all methods are alike unsuccessful.

Anything which lowers the general vitality increases the liability to diarrheal diseases. Marasmus, malnutrition and rickets are especially important factors. There are cases in which diarrhea and dentition are closely as-

sociated, for the bowels quickly become normal when the teeth have pierced the gum. These cases although rare do occasionally occur. The infrequency of diarrhea during dentition in the cold season is the best argument against its importance as an etiological factor.

"Of all etiological factors the form of feeding is the most important. Of 1,943 cases which I have collected," says Holt, "only 3 per cent. had the breast exclusively." Fatal cases of diarrheal diseases in nursing infants are extremely rare. In most cases, however, it is not artificial feeding per se, but artificial feeding ignorantly and improperly done, which is to be blamed. If cow's milk is to be employed as a substitute for breast milk the difference in composition are either not appreciated or else ignored. So that many artificially-fed children suffer from malnutrition. The comparative safety of cow's milk in winter and in the country, however, shows that the chemical composition of cow's milk is not the most important factor. Another common and very serious mistake is that of over-feeding. Artificially-fed children are almost always overfed. The common practice of feeding an infant every time it cries, or of keeping the bottle at its mouth the better part of the time, is productive of untold harm.

The feeding of impure milk is an important cause of diarrheal diseases, especially among the poor of our cities, during the summer months. The different ways that milk can be contaminated are many. I am especially grateful to pure food laws for the strict enforcement of this, the greatest life-saving station that has ever been inaugurated in our country. Articles of food totally unsuited to the child's digestion are often given. It is a common practice among some seemingly intelligent families to give all kinds of solid food to children from 6 to 18 months old and those of two years the regular diet of the family.

The great majority of diarrheal cases can be traced directly to improper food, often to unripe or partly decayed fruit. The factors mentioned, over-feeding, too frequent feeding, and the habitual use of improper food, are probably the most important predisposing causes of diarrheal diseases.

As has been stated in this paper, age, general surroundings, constitution, food and method of feeding, and the hot season, the bacteria dysentery plays its part, although writers tell us there are other organisms that are just as important; one group being known as the "true shiga" or alkaline type, the other as the Flexner acid type. The latter has been found most frequently in this country.

BRONCHO-PNEUMONIA, CAPILLARY-BRONCHITIS, CATARRHAL-PNEUMONIA.*

By ROBERT T. HOCKER, Arlington.

Broncho-pneumonia, capillary-bronchitis, catarrhal-pneumonia is an inflammation of the small bronchi, and air vesicles due to the extension of the inflammation from the capillary bronchi to the air vesicles, or to inflammation set up atelectatic lobules.

The essential lesion is a productive inflammation of the bronchi and surrounding air spaces, productive in the sense of formation of new tissue. The disease prevails in a large percentage of cases among young children. It occurs in association with measles, scarlatina, diphtheria, influenza and pertussis, or as a sequela to them.

Many cases are entirely independent of them and may be appropriately classes as idiopathic. Infants are especially subject to the affection. Most cases of pneumonia occurring at this age are of this form. Lobar or croupous pneumonia being exceedingly rare in children under two years of age.

Many cases are traceable to improper exposure to cold, unsanitary surroundings, rickets or debilitated conditions.

The malady is common with the aged, attributable to debilitating diseases, emphysema, gout and weak heart action, from vulvular inflammation.

It occurs as a complication from typhoid fever, erysipelas and smallpox. When complicated, except in very mild cases, it is of serious import.

My own experience would indicate that while not uncommon with typhoid fever and occasionally with variola it rarely occurs with erysipelas, never having had a case of the kind in my work.

It is frequently caused by the tubercle bacillus. Bacteria streptococcus, diplococcus, pneumonococcus, staphylococcus and others are the formidable array against which we contend.

Primary broncho-pneumonia occurs in from thirty to thirty-five per cent. of all cases; is met with in most cases among children. The onset is unusually gradual in delicate subjects, suddenly, as a rule, in cases where previous health was good, cough from the start; expectoration mucopurulent, tenacious, sometimes tinged with droplets of blood; temperature ranges from 101 to 104 degrees in cases of moderate severity. In severe cases the fever is higher and continued. The majority of cases are of the secondary variety. Lobar pneumonia is liable to be overlooked, when

developed during the progress of other grave diseases. It is rarely ushered in with an initial chill, respirations are frequent; in young children may reach 60 to 80 per minute; pulse is frequent and liable to be weak and irregular in the latter stages. There is decided leukocytosis, a favorable condition, indicating good or fair resistance.

Percussion varies, sometimes nearly or quite normal, again dull or tympanitic.

Fatal cases usually terminate in two or three weeks; sometimes two or three days, suffices to close the scene. Cases terminating favorably are usually convalescent in from one to three weeks. Sometimes they continue six to eight weeks, when the onset is sudden the temperature high with convulsions, delirium alternating with stupor the pulmonary symptoms are likely to be overlooked. Other cases are of a sub-acute type and there is anorexia, nausea and vomiting. Generally broncho pneumonia develops suddenly. There is one or more chills, high fever, prostration, violent headache, pain in chest and loins, that in the loins being by far more severe than the chest pain.

The diagnosis is usually not difficult, the disease, for which it is most liable to be mistaken, is croupous pneumonia, the bronchial variety is usually secondary, to diseases already enumerated. The lobar form is usually a primary disease, expectoration, rust or prune-juice color; dullness greater, usually confined to one lung; definite duration, while symptoms of bronchial pneumonia, as already given, are almost totally different; is usually bilateral, expectoration much easier than in the croupous form. There are other points of difference but these will suffice.

PROGNOSIS.

The gravity of the disease is in ratio with the amount of lung tissue involved; many cases are so mild that they cause little or no anxiety, while the outlook is quite serious in others.

If the general condition is bad at the time of attack, an unfavorable termination is apt to occur.

Active children, thin in flesh, stand it better than fat ones. The death rate is higher in children in proportion to age. The younger have less chance for recovery. Mortality varies from twenty-five to fifty per cent. in secondary cases. In the primary form it is much lower, from ten to fifteen per cent.

TREATMENT.

Prophylaxis, by proper management in many cases, likely sixty-seven per cent., can be avoided. Giving close attention to the nose and mouth are important. Good warm clothing in cold weather.

*Read before the Carlisle County Medical Society.

The closest attention should be given in the convalescence of measles and pertussis, and guarding against contracting cold from protracted exposure. The sick room should be well ventilated, and an even temperature of about seventy degrees F., the air kept moist by steam from a kettle. Change of position in any lung trouble should be practiced. Local treatment during the first seven or more days: the linseed meal may be applied, changed at intervals of six hours, cover jacket with oiled silk; absorbant cotton may be substituted for jacket when improvement is marked. In older patients, ice may be applied for lowering the temperature and relief of nervousness. It has a good influence over local inflammation.

Tub baths are highly extolled for high fever, beginning with a temperature of 98, gradually lower to 80 or 75. In moderate fever cold sponging and the ice bag will suffice; in high temperature, veratrum is the most reliable and safest arterial sedative, and should be handled with proper care; tincture of aconite usually gives satisfactory results, antifebrine and phenacetin carefully administered are safe and efficient agents. At the outset, a mild calomel purge is indicated, later salines or glycerine suppositories are preferable. For cough a combination of syrup of wild cherry, syrup of squill compound, aromatic spirits of ammonia, sweet spirits of nitre and camphorated tincture of opium, ingredients varied according to indications, given every three, four or five hours, pro-nata will afford decided relief; whisky or brandy and strychnine are indicated if circulation is weak; only needed usually after the lapse of four or five days. Hoffman's anodyne is valuable for nausea, vomiting or difficult breathing.

Exhaustion of heart may occur suddenly with mucus rales in the large bronchi. Atropine in doses of from 1-150 to 1-200 may be given every second or third hour.

Alternating douches of hot and cold water may be used. Normal salt solution in indicated in increased arterial tension.

Electricity may be tried. In spontaneous cases the antistreptococci serum should be tried. Quinine to a child of two years, four to five grains per day divided into four or five doses at intervals of three to four hours, continued to the first and second stages, unless there is nausea. I am aware that I am occupying dangerous ground, but I have used this agent for over forty years without having cause to regret it. Many important points have not been noted, which I feel quite sure will be brought out in the discussion.

JAUNDICE.*

By A. P. DOWDEN, Eminence.

I thought I would ask your indulgence this afternoon in the discussion of a subject that we cannot term a disease, but like epilepsy, angina pectoris, asthma, etc., is only a symptom and we all know, too well, our patients can be ill or die from symptoms.

So I thought I would call your attention to the symptom met by all of us frequently, hoping that the discussion will bring out better methods of finding the cause and removing it.

I refer to jaundice, or icterus, a condition produced by the bile instead of being confined to its physiological receptacles, finds its way into the blood tissues and fluids of the body, staining them all a deep yellow. I believe all of the secretions contain bile, except the saliva and the secretions of mucous membranes.

Jaundice is divided into the two following classifications:

Hepatogenous—Due to obstruction, preventing escape of bile in natural way, the liver is performing its normal function.

Hematogenous—Observed in certain infectious diseases and certain conditions where poisonous materials finds its way into the blood.

Hepatogenous jaundice is very much like the condition causing dropsy, the free course of the blood is obstructed, the veins become over-distended, watery elements of the blood ooze out.

DIFFERENTIAL DIAGNOSIS.

Hepatogenous: (1) Always due to mechanical cause; (2) result of obstruction; (3) local affair; (4) yellow stain apt to be deep and excessive; (5) heart influenced, pulse slow; (6) temperature sub-normal; (7) evacuations white, foul odor; (8) itching.

Hematogenous: (1) blood origin; (2) staining slight; (3) pulse small, rapid; (4) tendency to hemorrhage; (5) elevated temperature; (6) feces dark, no evidence of the absence of bile.

ETIOLOGY.

Hepatogenous jaundice, inflammation, catarrh biliary passages, common bile duct or hepatic duct, causing closure of these ducts, catarrh of biliary canals in liver, parenchymatous inflammation, peri-hepatitis, duodenitis resulting in the inflammatory closure of the papillae where the common bile duct empties into the duodenum, causing the secretions to back into the liver.

Cirrhosis of the liver, cancer especially, if it involves the under surface of the liver, from pressure, tumors of the liver other than

*Read before the Henry County Medical Society.

malignant. Jaundice sometimes arises during the latter months of pregnancy, uterine and ovarian tumors, aneurism of the aorta and celiac axis, yellow, remittent or continued fever, gall stone colic if it lasts for some time, but it usually comes on after an attack due to inflammation, due to the irritation produced by the passage of the stone or by the impaction of the stone in the common duct, damage done by the stone in its passage causing an inflammation resulting in stricture of the duct, round worms by finding their way into the secretory ducts of the liver, blocking them up.

The symptoms of obstructive jaundice are urine highly colored, contains bile, yellow stain on skin and mucous membrane, linen stained from bile in perspiration, sight may be affected, patient seeing things yellow; bile found in blisters, occasionally in milk, pulse slow, full volume; if rapid, due to some inflammatory complication. Respiration, slow from the toxemia. Temperature sub-normal. nausea, vomiting, thirst, anorexia, pain and tenderness in the epigastrium, somnolence, headache, despondency, pruritis, constipation, sometimes followed by diarrhoea, an eliminating diarrhoea due to the decomposed matter acting as an irritant, nutrition below normal.

The nervous symptoms are coma and convulsions may occur if an organic lesion is present.

Duration depends upon cause, the disease may be considered at an end when we no longer find bile in the urine in great amount.

TREATMENT.

Like duration, treatment depends upon the cause. Don't give medicines to increase the action of the liver, find how the jaundice is produced, due in most cases to the catarrh of the biliary passages, if so give the liver rest, give remedies that attenuate and dilute the bile, in other words bleed the mucous membranes by salines, cathartics and diuretics, give medicines that will not increase the action of the liver but will increase the action of the mucous membranes, for instance, ipecac in small doses is an expectorant and diaphoretic, increase the secretion of the entire mucous membrane. We want remedies in obstructive jaundice that increase the secretions and at the same time dilute it, such as sodii phos., muriate of ammonia, salicylate of soda, podophyllin, mineral waters etc.

Electricity by use of the faradic current, one electrode over the gall bladder and the other over the spine at the same level, irrigation of the large bowel with cold water injections.

DIET.

Food that does not require the bile to facilitate its digestion, absorption or prevent its

decomposition, hence, skimmed milk, broths and egg albumen, fats and oils should be avoided.

As I have gone into the subject of obstructive jaundice deeper than I intended, I will not take up, this time, hematogenous jaundice or jaundice of the new-born.

REPORT OF CASE OF HYDROPHOBIA.*

By W. T. BRITT, Glasgow.

On June 10th, I was called to see a patient with Dr. Bullock. On arrival I found a nine-year-old girl in a strange condition, and she had been in that condition for three days and nights.

The history as Dr. Bullock gave it to me is as follows: She had been suffering from an intermitting malaria fever for three weeks, seeming some days to be better and then worse; complaining all the time of headache extending down in back of neck; also complained of her legs hurting her so she would have to lie down frequently through the day; appetite became poorer and poorer until she could not eat nor drink scarcely at all; constipated from the beginning, bowels had not moved but twice in three weeks in spite of all the doctor could do.

On Thursday, June 7, at 4 p. m., she was seized with what they called a spasm, which lasted her for some 20 to 40 minutes, then relaxed, but remained in that unconscious condition till just one hour earlier Friday p. m., when she was seized with another fit as the day before, which lasted 30 minutes or more, then relaxed partly; one side would be perfectly relaxed, the other rigid and would change from one side to the other, sometimes her arms would jerk over her head and sometimes only one arm would contract, each time seeming to try to work at her throat. Pupils widely dilated, no reaction, urine scanty, pulse 130, temperature 101 1-2, respiration 12 to 30, when rapid would blow froth through teeth; could not speak or move. Temperature never went above 102 1-2 degrees.

We watched her Saturday till after the regular time for these hard seizures to come on, but by this time she was so rigid and so completely overcome by the poison that she lay like a log, with breathing 6 to 20, pulse 150. I left at 7 o'clock not expecting she would live till morning. But if living the doctor was to telephone me. So he told me he could see no difference in her Sunday morning from Saturday night. So I told him I would come back and bring reports of the Pasteur Institute.

I did not reach the patient's house till 8

*Read before the Barren County Medical Society.

a. m. On arrival her mother told me she had missed her bad spell but had begun to have light spells every few minutes since early in the night before. Temperature 101 1-2 degrees, pulse 150, respiration 5 to 30; no sign of consciousness, could not take anything. Last medicine remained in her mouth for one hour and tablet was blown out as if it had not been in mouth.

Dr. Bullock and I watched her all day Sunday studying every symptom and comparing them with everything we had. We decided that beyond a doubt she was suffering from hydrophobia in the dumb variety, where paralysis comes on early and prevents one from that violent maniacal condition we sometimes see.

The girl was bitten in November, 1911, and while it seemed that the wound got well, her mother told me she had not been well since she was bitten. She was afraid to stay by herself, seemed to imagine she was not at home and had the peculiar hallucinations which characterize the first and second stages of that dread disease.

The patient remained in that semi-conscious and unconscious state from Thursday till Tuesday when she ceased to breathe and her spirit went to God who gave it.

This was a most horrible death which I hope I may never witness another like.

ERYSIPELAS; REPORT OF CASE.*

By W. W. RAY, Springfield.

It is my purpose in writing this paper to report a case which impresses me as having some features of unusual interest, and importance.

On the tenth day of August, 1911, I visited a ——— McElroy, a three-months-old girl baby, and found it with some fever, and an ugly phlegmon on the right lip of the vulva.

I predicted that this would be an abscess and would be ready for lancing in a few days. Instead of an abscess developing, the redness and tumefaction spread rapidly and soon involved the other labium, and extended up the body, and down the legs. Temperature was high, and pulse and respirations showed that there was profound constitutional involvement.

It was now apparent that the case was one of severe phlegmonous erysipelas.

The skin over the diseased area was tense, thickened, and of a coppery red. The symptoms of profound general infection soon became alarming. Pulse was very weak, and greatly accelerated, and temperature very high and persistent. Medical treatment gave meager if any results.

M. W. Hyatt was called in consultation. We gave 3000 units of antistreptococcus serum. No benefit: After about 18 hours, gave 4000 units still no effects, or slight if any.

The child was now very low indeed, and our spirits correspondingly low.

About this time we read a clinical report from some French or German physician who was claiming to have uniform success in the cure of all of his erysipelas by the use of the diphtheritic antitoxine.

It did not seem plausible to us. We know that the streptococcus was the germ found in most cases of erysipelas. No pathologist had, ever to our knowledge, found any of the Klebs-Loeffler bacilli in erysipelas. It did not seem rational or logical to inject antitoxine in our case, and yet: What to do? We were up against it! Alas, how often doctors are up against it. Out in the fog with only this little gleam of light to steer by; could it be a light-house gleaming in the distance, or only an ignis fatuus to bewilder us into deeper darkness? Well, we gave the antitoxine. Injected diphtheritic antitoxin for erysipelas. The results were as magical and marvelous, as we have all found them to be when this serum has been used in diphtheria.

In twelve hours it was plain that there was marked improvement all along the line.

In about thirty-six hours we repeated the dose when lo, the fight was practically over.

There were some small abscesses to be opened later and other non-essential details. But, the important point to this story is, that here was a case of erysipelas of unusual severity, promptly controlled by the administration of antitoxin.

Here is a matter of so much interest and importance that I feel that the sooner it is in the hands of the profession at large, so that they may consider the advisability of making further observations along this line, the better.

I know, of course, that results in a single case are not worth much except as they may serve to point the way; but I shall watch for further reports along this line with great interest.

Pre-Operative Nucleic Acid Has No Prophylactic Value.

—Preliminary injection of nucleic acid as a prophylaxis of peritonitis was given a thorough trial in von Eiselberg's service at Vienna but the conclusions are unfavorable. In 1,056 laparotomies done under the prophylactic injections the mortality from this cause was 4.6 per cent., but in a later series of 775 laparotomies, in which it was not used, the mortality averaged only 2.7 per cent.

*Read before the Washington County Medical Society.

NEWS ITEMS AND COMMENTS

LAUREL—Dr. H. S. Pitman, of East Bernstadt, has just returned from an extended visit to Texas.

MARSHALL—It is with regret we chronicle the death of Dr. L. E. Jones, of Benton, on July 3rd. Dr. Jones was in partnership with Dr. V. A. Stilley and enjoyed a large practice and the esteem of his many friends.

NELSON—Dr. B. E. Gore's charming daughter, Miss Margaret, was recently operated on for appendicitis and made a rapid and complete recovery very much to the gratification of her friends and the many friends of her father of whose eye she is the apple.

BARREN—Dr. A. B. Marcum, age 71, of Cave City, who was one of the oldest physicians in that town, died at his home, July 8th. About two weeks previous he received a small scratch, which developed septicemia; later an organic heart complication brought the end.

EDMONSON—Dr. A. T. McCormack, Prof. Wyckliffe Rose, of Washington, D. C., and Dr. W. L. Heizer filled an engagement at Brownsville and Bee Springs, giving an illustrated lecture on Hookworm and other preventable diseases. At both places, they were greeted with large and interesting audiences, and of the 150 specimens collected, a large per cent of them showed Hookworm infection. Arrangements were made to start a dispensary, a County Board of Health was organized and cooperation of many leading citizens was secured so that it seemed likely some real effective health work will be done in the near future.

Dr. W. S. Blakeman, of Glasgow Junction, died June 26th; by his death Barren County loses one of its leading physicians and the community one of its best citizens. His remains were carried to Walnut Hill Cemetery and given Masonic burial.

A special meeting of the Barren County Medical Society was held at the court house on July 9th; during the day Dr. H. N. Leavelle, an eminent physician of Louisville, held a clinic in the county court room for the examination and suggestion of treatment of all patients presented by physicians of the county. At night Dr. W. T. Boggess, a prominent physician of Louisville, delivered a free lecture on the subject, "A Health Talk to the Public." Dr. Boggess is a well known lecturer, and commanded a large and attentive audience.

FAYETTE—The Burley Tobacco Company has purchased the High Oaks Sanatorium property, to take possession as soon as Dr. George P. Sprague, who has conducted the sanatorium for many years, can complete his new sanatorium buildings on the property he has purchased about a half mile further out on the same street, South Broadway, Harrodsburg Pike. In the meantime, the Burley Society will build on part of the property which has not been used for sanatorium purposes, and will enter upon full possession as soon as the new sanatorium is ready to move into, which will probably be early next spring. The profession is to be congratulated that Dr. Sprague is going to erect this splendid new sanatorium.

COUNTY SOCIETY REPORTS

Ballard—The Ballard County Medical Society met with Dr. J. D. Rollings, at Hinkleville, on Tuesday, June 11, 1912. Members present: J. W. Meshew, H. V. Usher, Ezra Tilsworth, Bob Overby, B. F. Morris, W. A. Ashbrooks, Leslie Rudolph, C. E. Harkey, G. L. Thompson, J. S. Johnson. Meeting called to order by President Ezra Tilsworth. Minutes read and approved.

J. D. Rollings opened the program by making a talk on "Enterocolitis," which was discussed by the society.

H. B. Melton was absent, so his subject "Swat the Fly," was discussed by the society.

Ezra Tilsworth read a very interesting paper on "Therapeutic Value of Digitalis," which was enjoyed and discussed by the society.

After the meeting had adjourned the society was served with refreshments by Mrs. Rollings, which was enjoyed even more than the meeting. After voting this the most enjoyable meeting of the year, the society adjourned to meet on Fish Lake, near Barlow, July 16, in open meeting with McCracken County Medical Society.

J. S. JOHNSON, Secretary.

Carlisle—The Carlisle County Medical Society met at Cunningham, July 9, 1912, in the office of Dr. Shelbourne, Dr. Marshall in the chair. Members present: Drs. W. L. Mosby, Jackson, Marshall, Payne, Crouch, Shelbourne and Dunn.

W. L. Mosby read a very interesting paper on "Tuberculosis." The paper was well discussed by all present, and the discussion being closed by W. L. Mosby, after which the society adjourned for dinner.

Reassembled at 1:30 and program was continued, which consisted first of a paper by **W. Z. Jackson**, on "Patent Medicines." He gave an account of the ingredients and ill effects of Dr. King's New Discovery, Kilner's Swamp Root and several others, telling why they were detrimental to the people. The paper was discussed

by Mosby, Crouch, Marshall, Payne and, in closing by W. Z. Jackson.

G. W. Payne next read a paper on "Management and Prevention of Acute Contagious Diseases." He insists on vaccination, antitoxin, etc., and strict quarantine in all suspicious cases.

H. T. Crump's paper on "Management and Prevention of Bowel Troubles in Children," was quite entertaining as well as instructive. He gave the causes in such a plain manner that any mother could readily understand how to prevent the disease. A hearty discussion followed which was closed by the writer.

Motion made and carried to assess each member \$1.00 to meet incidentals.

A vote of thanks was tendered Mrs. Dr. Sheldbourne for the excellent dinner she had prepared.

On account of a misunderstanding the above papers were prepared for the benefit of the laity, but none were present. However, we all enjoyed the papers.

The society adjourned to meet the first Tuesday in September, at Fish Lake. The doctors are to take their families and have a nice outing.

J. F. DUNN, Secretary.

Fleming—The regular meeting of the Fleming County Medical Society was held in the office of Garr & Brice, Flemingsburg, Wednesday afternoon, June 19th, 1912.

Members present: Drs. Garr, Brice, Aitkin and O'annon. The meeting was called to order by the President, Chas. W. Aitkin. The minutes of the previous meeting were read and approved.

C. E. Garr reported a case of "Albuminuria." The patient had been rejected by an insurance company. The case brought up the subject of transient and permanent albuminuria in insurance risks. The discussion which followed was thorough and profitable.

There being no further business to come before the society, we adjourned to meet on the third Wednesday in July, 1912.

J. B. O'BANNON, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House, in Falmouth, on Wednesday, July 10th, 1912, with the following members present: Drs. Blackerby, Brown, Caldwell, Chipman, Clark, Daugherty, Ellis, Hopkins, Nickols, John E. Wilson, J. Ed Wilson, Woolery and W. H. Yelton. Drs. Givens and N. W. Moore, of Cynthiana, were present and added to the joys of the occasion.

After a few reports of clinical cases **Dr. Givens** gave us a splendid talk on the "Pupil in Health and Disease."

N. W. Moore read a paper on "Pellagra," which was ably discussed by some of our members, and by Dr. Givens also.

N. W. Moore then presented a case of "Typhus Vulgaris," that he had treated and cured with

the X-ray. Also a case in which he had not positively made the diagnosis yet but one he thinks is "Epithelioma."

Our society was delighted with having two such able members of the profession with us, and we certainly enjoyed their very able talks, Dr. Moore's able paper, and his presentation of the two clinical cases.

This was one of the most enjoyable meetings we have had.

W. A. McKENNEY, Secretary.

THE FORUM

FROM OUR BELOVED DR. STEELE BAILEY.

To the Editor:

To-morrow and to-morrow and to-morrow, creeps in this petty pace from day to day till the last syllable or recorded time, and all our yesterdays have lighted a great many clever people their way to Davy Jones' locker. So says the poet, but prophecy is a dangerous proposition, except to a favored few, in this vale of tears. Too many unsuspected factors are apt to arise to permit of certain judgments from the factors already known and determined.

My mentality warns me of my shortcomings; I comprehend that works adjourned have many stays and long demurs breed new delays. I have wanted a long time to return to my "first love," to throw my castor into the ring of the JOURNAL to say a word, (I haven't a thing worth distributing) but new delays have interposed. Knowing the generosity of the editor, and that he is not averse to pleasant words and kindly deeds, I venture a knock at the door, and here's a wish that it will be opened unto me.

I am in fine fettle and living backward now, to make a springtime of the winter which comes. The longing to stay young should be the doctor's delight; in this he is helping to make the soul immortal and to preserve youth—that is, if the desire is inspired by the right spirit, a hopeful spirit, and not a fretful longing. If a man is not an imbecile, he can always keep in a little cosy corner of his heart the feeling, or the fancy, that he is only twenty. He must caveat only a "little corner" as big plans do not balance small performances.

It is nice to be happy, to be where loud anthems are always ringing, to sit in complacent ease and eat whatever you want to and drink whatever you please—at twenty. But, we shall rest—and, faith we shall need it—when the last hip has been banished and the seams are all taken in. Dear, dear, if wishes were wings, good works would soon cease. Do you remember the story of Frankenstein?

The latter was a medical student, according to the authoress of that famous novelette. He conceived the idea of building a man and successfully did so. But unfortunately he builded a monster. It was one of the greatest stories of its day, though purely a mind-child. Now, in this day and generation, it is possible in reality that the old novel has proven prophetic. I observe that tissue of the human body removed immediately after death, bottled in chloride solutions and other media, and kept in cold storage, is now in demand in surgical operations. I thought it was a lot of Munchausenism when I read the statement made at Atlantic City that a section of "canned" cartilage was rushed from New York to Chicago by express for use in a case of knee disease. It arrived safely, was grafted into the knee, and the patient is now walking about the Windy City with a part of a dead man doing excellent service in his locomotive mechanism. Truly, the medical profession is to be ranked with the progressives. Yet, as a unit, I do not wish to make my quietus with a bare bodkin that some other one of the genus may play ball with my cartilages, and I shall try to prevent it, sure.

That reminds me: A very demure little French woman, who teachers her native tongue in a well-known college in the west, learned recently under embarrassing circumstances, that it is not always safe to accept as a final standard of correct English what she may casually hear.

One night at supper the president of the college announced to the assembled young ladies and teachers that an informal musical program would be given presently in the college chapel. Turning to the dainty Parisian, who, in addition to her other accomplishments, plays the piano well, he said:

"Perhaps Mme. Petit will be so good as to assist us."

The lady addressed arose and coyly replied: "I will do my durndest, professor," and I shall do likewise. I should think to dwell long upon "canned cartilage" in cold storage would induce delusions, or, at least, morbid introspections. Now, whether I should view the subject with Micawberish indifference—the so-called expectant treatment—is the question. To be serious; never before has the field of medical investigation been so extensive, the workers so many and able, and the methods of research so varied. Every generation of workers has had its special theories and supposed discoveries to test, to accept or discard. In no direction has the medical profession made greater advances in the last quarter of a century than in surgery. Give us facts, not fancies—proofs, not propositions, is the

demand of the medical mind of to-day. It is digested facts which nourish thought.

You may preach me a sermon on modesty and tell me that the shrinking violet is the noblest of emblems and the shy and retiring rabbit the model of human conduct; but as there is no anarchy in blowing the tops off of "schooners" I must insist on telling the illy-paid medical boys a novel way of successfully collecting long-delayed bills, which may be of value.

First, as I have a design under it, I will introduce the following, not that here is anything startling about it, but as being different from what we used to observe in the old commonwealth, in the lang syne. Every spring in this altitude of from seven to ten thousand feet, in the Titanic mining region, we see numbers of cases of acute lobar pneumonia. In severity it does not compare with the "Southern" variety. Whether the extremely dry atmosphere, the hyetometrography as an annual average recording not more than fifteen inches, the plentifulness of ozone, or the winds, and Æolus frequently does stunts of from forty to fifty miles, or the absence of germs, or what not, I shall not presume to divine; but the unvarnished fact is that nearly every case recovers; anyhow, there has been no mortality at his institution, nor in this canyon, from the malady recently. We throw physic to the canines and sieked 'em and with the exception of a weak solution of phosphoric acid no other medicament was employed. The disease would have terminated abruptly and naturally without a dose of physic. Even the customary pneumonia-jacket was omitted. The adynamia of the disease is due to a systemic poisoning and not to exhaustion; therefore, overfeeding was deprecated—a heavy diet is liable to intensify the already labored respiration. After consolidation has taken place, hyperpyrexia was treated by alcohol sponges with friction and an ice bag to the head and heart, but no internal antipyretics. There are tricks in all trades except ours. There is no sleight of hand in curing every case, if the attendant will not be "fussy" nor afraid to carry out his convictions. I know, because it is his duty, that the doctor will not neglect the luxury of his daily calls. No angel bands will follow him and there is a reasonable hope of bread and butter behind the patients. One of the attractions of a practitioner in a quartz mining camp is, that he suffers not the anguish and despair in the collection of his I. O. U's, which beset the medical man, especially, in some parts of the country. The doctor is glorified, magnified as he was in the days of the Bonnie Brier Bush, or in the early settlement of Kentucky, when ministers of grace, as well as those of the body, were a rarity. The mines pay on

the first of the month and all honest miners endeavor to remember the doctor with either much or little, soon thereafter. There is no denying the fact that the medico is beaten occasionally and to make assurance doubly sure he is forced, on occasion, to resort to strategy.

A story is told of one of my medical friends in Tonah, which shows there are divers methods of collecting bills. Several months ago a well known Tonah lady engaged a cook, but the pay days were postponed and instead of coin of the realm being paid for the services only promises resulted. One morning the lady of the house arose and on visiting the breakfast room was astonished to find that no preparations had been made for the morning meal. She hastily went to the hired girl's bedroom, where the servant was found in bed and who complained of being ill. The doctor was summoned and after making an examination asked the girl if she were really sick. There was no response to the interrogation, except a mute look of appeal from the patient. The mistress left the room at this time and the girl blurted out:

"No, I am not sick, only the lady owes me three months' wages and I am going to stay in this bed until I receive my pay."

"Well, as Paddy said in the fight, 'for God's sake somebody hold me,'" replied the M. D. "Move over, give me room and I'll stay too, she owes me one hundred dollars."

I have come to the end of my tether. However, I could become more prolix and tiresome if I had a mind to. My readers may be impressed with the same idea I have of this epistle; that it is an exceedingly funny thing why some well-meaning folk have the ability, while others of equally strong mental calibre do not possess it, of writing all they know on a postage stamp and without cancelling the stamp. Sure, they must carry a little penny in the pocket, with a hole in it, for good luck.

My best wishes for the health and prosperity of the Association and love to you and yours, I am

Verily and inviolably,

STEELE BAILEY.

Mammoth City, Utah, July 3, 1912.

Primary Ethyl Chlorid Anesthesia.—Stieda and Zander have done over a thousand minor operations during the last year under anesthesia induced by the first whiffs of ethyl chlorid. They commend it as a convenient and effectual mode of anesthetizing for a brief operation. The operator must resist the tendency to give more of the ethyl chlorid than is necessary; the fact that the patient retains his consciousness is misleading in this respect. From 20 to 40 drops suffice for women and children; men may require up to twice this.

Differentiation of Hydronephrosis.—Trinkler reports a case of assumed hydronephrosis. Cystoscopy showed that he right ureter gave less urine than the left which seemed to be working normally. The tumor was spherical; it had developed in less than two days and its location in the rear of the hypochondrium and front of the lumbar region, and the transmission of fluctuation up into the right kidney region on percussion from the front—all signs pointed to right hydronephrosis; gynecologists consulted said that the genital apparatus was not involved. The tumor proved to be an ovarian cyst with a very long pedicle which had become twisted. Adhesions between the cyst and the liver kept the cyst unusually high. When the liver is enlarged and congested, it is liable to push the kidney down and fill its place. In another case recently the liver and gall-bladder had sagged into the lumbar region while the kidney had been pushed over toward the bifurcation of the aorta, almost into the small pelvis. In the two cases previously mentioned the cystoscopic findings were misleading; the reduced output from the right kidney was not due to functional but to mechanical causes.

Ascending Currents in Mucous Canals and Ducts.—Goldmann introduced into the rectum a capsule containing charcoal or indigo in a number of patients with a fistula in the bowel, and in from one to three days particles of the foreign substance appeared in the fistula, proving the existence of antiperistaltic movements or retrograde transportation of the particles. He obtained positive findings also in experimental work and in cases of fistulas in to the bile apparatus when the foreign substances were given by the mouth. Everything tends to show that retrograde transportation of bacteria and minute foreign bodies may be responsible for infection or may supply the nucleus for a concrement. The same factors may aid in the production of concrement in the urinary passages, salivary glands and appendix. Stagnation in canals and ducts favors this retrograde ascending current and subsequent infection, and hence should be combatted early.

Differential Diagnosis of Cancer and Simple Achylia.—Einstein has been studying the amount of dissolved albumin in the stomach content which Wolff and Junghaus assert are characteristic for cancer. (Their statements were summarized in *The Journal A. M. A.*, July 8, 1911, p. 172). They found in malignant diseases a large proportion of dissolved albumin in the stomach content one hour after the test meal with a very small proportion of pepsin and hydrochloric acid. Einstein's research confirms the importance of this test, the findings serving to differentiate simple achylia from the aepsia with malignant disease.

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ORIGINAL ARTICLES

FRACTURES OF THE SKULL.

By J. GARLAND SHERRILL, Louisville.

My decision to present this subject for your consideration was formed because of six cases of actual, and one of suspected fracture of the skull which came under my observation in the last few months. All of these save one were in private practice, and each in itself of some interest and to me at least the cases were quite instructive.

CASE I.

H. M., was hit over the head with a six-pound hammer. When I saw him his attendants had already incised the scalp, upon which there were three wounds, one on the right side near the occiput; another on the right side of the forehead, and one near the median line in the forehead, such as might be caused by the hammer described. He also had a wound on the right side of the lower jaw, with fracture. Almost the entire right side of the skull was shattered; the right hemisphere of the brain pulplified, and fluctuant, and considerable brain tissue escaped from the posterior wound.

The fragments were lifted from the brain, the fracture evidently leading to the base. Considerable hemorrhage occurred from the right ear. The patient's pulse became somewhat weak upon the table and he received a litre of saline solution. He left the table with a pulse of fair volume—about 80; partially regained consciousness, but lapsed into coma and died at eleven o'clock the next day, the tension of the pulse being fair until the end.

CASE II.

C., white, male, 58 years of age. Was struck on the right side of the back of the head with an iron pipe, making a wound about three inches in length. He also had another blow on the forehead, making a wound about one inch in length. His left cheek showed evidence of a brush burn, and there was a bruise upon his nose, probably where he fell.

DIAGNOSIS.

A compound fracture of the vault of the skull. Under chloroform anesthesia the wounds were enlarged and in the anterior one a double linear fracture was found, with a depression about one inch across and two and one-half inches long. This was elevated and the line of fracture chiseled out for drainage. The patient's convalescence was uninterrupted.

CASE III.

T. D., white, male, age 54 years. Excessive user of alcohol. Was found on the street unconscious. Brought to the hospital January 6th. On examination the patient was bleeding from the left ear, profoundly unconscious; pupils unequal; pulse slow and full; stertorous breathing, but temperature normal. Slight wound over the left eye. Patient was seen in my absence by Dr. McCoy.

DIAGNOSIS.

Fracture of the base of the skull; wound over the eye was sutured; the ear was cleansed and packed.

TREATMENT.

Rest and elimination.

Patient made a gradual but complete recovery. Discharged two weeks later in first rate condition.

CASE IV.

Mr. L., white, aged 45 years. Was injured by a blow over the left mastoid process, fracturing and crushing that portion of the temporal bone; accompanying it was a hemorrhage from the left ear; temporarily unconscious, followed by mental sluggishness and irritability. I saw him twenty-four hours later and advised quiet and the use of an ice cap, purgatives and the bromide of sodium. The patient improved gradually, but somewhat slowly.

CASE V.

J. B., white, male, aged 61 years. History of having fallen into a cistern, striking his head. There was a small scalp wound at the back of the head and a small hematoma in the right temple; hemorrhage from the right ear. Patient was immediately unconscious, the pupils not responsive to light. Later he vomited and showed slight improvement. Saw him about twelve hours after his injury, with the following conditions present:

Pupils contracted and responding to light, but sluggish; muscular power good, no paralysis; sensation good. He could be aroused, but was apparently unable to hear, and outside of one or two words was not able to speak. Temperature 98 1-2 in one axilla and 99 in the other; pulse rate 60.

DIAGNOSIS.

Fracture of the base of the skull with slight cerebral contusion. Owing to lack of focal symptoms and the slight improvement shown in his condition the plan of expectancy was advised. The patient made a very gradual but complete recovery.

CASE VI.

G. G., white, aged 11 years, male. This boy was injured by an automobile, two days prior to my first visit. His right arm and leg were abraded. A large hematoma on the scalp, with evidence of depressed bone; cracked-pot note on percussion. His pupils were normal and responded to light; pulse was somewhat rapid; intelligence was clear, but he complained of headache.

DIAGNOSIS.

Fracture of the skull with depression. Operation upon the following day. A seven inch incision was made over the left side of the skull, revealing a long linear fracture with a stellate depression at its anterior end. The depressed fragments were in part removed and in part elevated and the linear fracture widened for examination. Patient left the table in good condition. Complained of some headache during the first night, but this soon subsided and he made a good recovery. Left the hospital on the eleventh day.

CASE VII.

C. L., male, white, aged 5 years. He was found unconscious in the street, apparently having fallen off the rear of a wagon. His attendant had made diagnosis of fracture of the skull, based upon unconsciousness, unequal pupils, and full strong pulse. I saw him twenty-four hours after the injury. At my examination there was no evidence of skull fracture; no evidence of injury to the brain, and patient in very fair condition. Advised non-interference. The patient left the hospital the second day and made a perfect recovery.

Much discussion has developed over the various methods by which fracture of the skull may occur. Such violence has been described as direct and indirect, the term "direct" being applied to such violence as is followed by fracture at the point of impact, as in an incised fracture from a sharp instrument; while that producing a fracture at a distance from this point has been called "indirect," as in cases of fracture from contre-coup, or from falls on the feet. As a matter of fact violence in every case must be applied to the skull itself for a fracture to occur, although the force of the blow may be expended at a distance from the point of application. Fracture, therefore, may occur at a point opposite to the blow, as in the case of a bursting fracture, or may be equi-distant from the point of impact and the point of resistance. An example of this form of fracture is shown in the bursting fracture resulting when a nut is compressed in a nut-cracker. A similar form of injury is seen when the head is thrown forcibly against a hard object. There is here what the French call *tassement*, or piling up of violence. In such cases the violence is of necessity great, the line of fracture extensive even in the absence of much contusion. On the other hand the resultant fracture from a direct blow depends upon the weight, force, and size of the wounding object. In the first group there is likely to be produced a diffused contusion or laceration of brain substance with the usual symptoms of shock, concussion or contusion of the brain, the lines of fracture often leading to the base of the skull; yet in many cases there is no injury of large vessels or bleeding at the point of impact, and rarely pressure of the fragment of bone upon the brain is present. A number of years ago I saw a case of this kind with Dr. Speidel, where a child had fallen from a second story striking its head upon the pavement. The bones were crushed for some considerable distance but caused no pressure upon the brain, nor was there any distinct hematoma present, yet the damage done to the brain tissue was so great that death followed very promptly.

In the other class of cases, produced by a blunt object, the injury to the bone may be quite localized, producing an open wound with a depression of a limited amount of bone, which in one instance may result immediately or shortly in death of the patient, or in another may cause but little disturbance. An example of the first is seen in the killing of calves and sheep in the abattoir.

A number of years ago I saw a visiting athlete who was hit with a twelve pound hammer in the center of the forehead, causing marked depression and considerable destruction of the brain tissue, producing complete paralysis; unconsciousness; loss of reflexes and slow stertorous respiration, with a very slow pulse of excessively high tension. This patient died from respiratory paralysis during efforts to lift the fragments of bone from the brain.

In another instance the bone may be shattered into many small pieces with but slight injury to the brain, the patient remaining conscious and fairly comfortable throughout. It may be well to state at this point that a very serious intra-cranial lesion may occur without evidence of injury to the scalp, and again rupture of a meningeal vessel may occur, as well as considerable damage to the brain without a break in the outer table of the skull. This is the result of the elasticity of the skull, which is forced inward by the blow, pressing upon the brain and returning without producing fracture. Felizet and others have thoroughly demonstrated this point. Von Bruns has shown that by placing a skull in a vise and compressing it that its diameter was materially reduced before fracture occurred, a diminution of from five to ten millimeters being often observed.

The symptoms in a given case will depend upon the location of the fracture, whether of vault or base and its extent; and upon the injury to the delicate structures within the skull. Symptoms indicative of a fracture are very frequently delayed for some time after the occurrence of the injury. I recall two cases terminating fatally in which symptoms of serious injury of the brain were not present for over twelve hours. In each of these cases the fracture extended from the vault to the base, and one almost entirely across the base of the skull.

DIAGNOSIS.

Fractures of the vault can be made out with more certainty in the larger number of cases than those of the base, the symptoms in the latter being less direct. Compound fractures of the vault are especially easy of diagnosis, because of actual sight and feel of the line of fracture. The test so universally given to tell the line of fracture from that of

a fissure or of a Wormian bone is classic. The cases which are difficult to make out are the simple linear fractures without depression. A line of tenderness to pressure not explained by contusion to the soft parts is a valuable sign. If upon percussion there can be elicited a cracked-pot note, fracture is certain. A skiagraph will oftentimes show a line of fracture in the vault, but frequently fails in case the fracture is at the base.

The diagnosis of basal fractures will be made by (a) the kind and direction of the violence; (b) by the signs of hemorrhage from the broken bone; (c) by the escape of cranial contents, and (d) by symptoms due to lesions of the cranial nerves.

If the fracture is in the posterior fossa, hemorrhage often appears two or three days later at the tip of the mastoid; if in the middle fossa, hemorrhage will occur from the ear and perhaps from the throat. If fractures of the anterior fossa, bleeding from the nose or into the orbit is strongly suggestive of the injury. Hemorrhage resulting from fractures of the orbital plate, according to Rawlings, appears at the outer canthus and progresses inward to the corneo-scleral margin.

On the other hand palpebral hemorrhage from a superficial blow with fracture begins on the inner side and progresses into the tissues of the upper and lower lids. Exophthalmos may occur if blood is poured out behind the bulbus oculi. It is always slight if the smaller vessels are torn; if the orbital branches of the middle meningeal or if the cavernous sinus is torn the proptosis is marked. Rawlings, quoted by Archibald, tabulates this condition in three groups:

1st. Proptosis, occurring almost at once, severe and progressive; fracture in sphenoidal fissure or cavernous sinus probable, with extravasation of blood forward; thrombosis of the sinus or damage to the internal carotid may co-exist.

2nd. Proptosis, moderate, and appearing after a few hours will indicate a fracture of the orbital wall; rupture of the ophthalmic vessels.

3rd. Proptosis, appearing days or weeks after the injury, usually steadily progressive. One can diagnose here a fracture near the cavernous sinus with arterio-venous aneurism.

TREATMENT.

There is perhaps no class of injuries which demand a higher degree of surgical judgment in their management than do fractures of the skull. While it is a fact that prompt and early interference when indicated will give the lowest mortality and best permanent results, it is nevertheless true that a very considerable amount of judgment is necessary to tell which case demands prompt operation and

which would do the best under expectant treatment. I am positive that in my early enthusiasm I have erred in operating upon cases where my present knowledge would forbid such a step. On the contrary the surgeon should not by procrastination and delay or because of timidity allow a patient to die from pressure due to intra-cranial hemorrhage, or from meningitis following a compound fracture without interference. This was forcibly impressed upon me a number of years ago in a case of suspected fracture of the base which I saw with Dr. Phillips. The patient had an injury to the head and presented but few symptoms, so that when I saw him about three days later I advised that Dr. Phillips continue the expectant treatment he was then employing, with the result that the patient developed meningitis and died, the infection probably having occurred through a break in the pharynx. It is doubtful if any hard and fast rules can be laid down upon which one can base a plan of treatment. This is largely due to the fact that the symptoms vary so greatly in the different cases. All observers are agreed that compound fractures of the skull, even without brain symptoms, should be trephined to prevent possibility of infection and meningitis. Access in these cases is easy, and in the severe cases with evidences of pressure the operation may be done with little or no anesthetic. In depressed fractures operation is advised to prevent the later nervous troubles so prone to follow. The interference in this class of cases need not be done hurriedly except with pressure symptoms, although it is unwise to delay too long lest the epilepsy or persistent headache be already determined. Linear fractures without depression or brain symptoms should not be opened, although some writers do not agree with this advice, claiming the subsequent history is better when they have been explored. Linear fractures with brain symptoms should be submitted to operation unless it is clear that operation is contraindicated. Gunshot fractures should be explored and the bullet, if possible, removed. Just here a word of caution may well be inserted, viz., the delicate brain tissue should be disturbed as little as possible, for although at times one remarks how much damage it can withstand, still the insult should be limited to a minimum amount.

In fractures of the base of compound type all possible sources of infection must be rendered sterile if possible; ears with rupture of the drum and escape of cerebral fluid should be gently cleansed by small pieces of sterile gauze or cotton and lightly packed with gauze. Alcohol is a splendid cleansing agent. The blood and meningeal fluid are sterile and wash out some infection. Peroxide of hydro-

gen should be not used because it may force bacteria into the minute crack or fissure in the skull. Powders, too, are to be avoided. The nose, throat and mouth should be cleansed with saline solution, even if there be no evidence of lesion in the nose or pharynx. Upon the appearance of meningitis drainage of the fossae of the base is indicated, although often of no avail.

The prognosis in a given case will depend very largely upon the symptoms, some remarkable recoveries occurring, while other apparently trivial injuries result in death. The cases which I dread to see are the very serious bursting fractures caused by falls from a height or in similar manner with unconsciousness, prostration, pallor, fast feeble pulse, and cold clammy sweat; pupils responding but feebly to light, or perhaps not at all; respiration feeble and shallow. Special senses abolished, with or without paralysis, but showing no tendency to rally or to restoration of consciousness. I take these symptoms to mean a marked contusion of brain tissue, many minute lacerations of structure and small hemorrhage. In my experience these cases die, especially in children—and die more promptly if subjected to immediate operation. If they have a chance it is after time has been allowed for a restoration in part at least of the cerebral equilibrium. Marked bone depression with great laceration of brain tissue and a very slow pulse of high tense, very slow and stertorous respiration, complete paralysis and total loss of consciousness makes a very grave prognosis, and the gravity is increased if the pulse becomes suddenly very rapid, showing exhaustion of the circulatory apparatus. Some of these cases, however, with much hemorrhage often show brilliant results following prompt trephining.

In operating upon such a case care must be employed to lift the fragments with as little displacement as possible, lest a vital part be pressed upon with sudden cessation of respiration. Artificial respiration becomes a valuable aid at this juncture.

The cases most hopeful are those not completely unconscious with a pulse not below 60, of good volume but not too high tension, with no paralysis or a limited loss of power in certain localized groups of muscle—with or without evidence of extra dural hemorrhage, provided prompt operative interference is employed.

In making an operation certain points must not be overlooked:

- 1st. Rapid work.
- 2nd. Minimum loss of blood. Patients, especially children, can stand the loss of a smaller amount of blood from the interior of the skull than any other part of the body.

Cerebral anemia and great shock are to be expected, therefore hemorrhage is to be prevented in every way possible. Use minimum amount of anesthetic commensurate with complete relaxation. While I have and do use chisels at times, I have always thought the danger of jarring to be by no means a small one and avoid it as much as possible.

DISCUSSION.

Irvin Abell: Unfortunately, this excellent paper has been presented at such a late hour and the subject is such a tremendous one that, while I think a full discussion would be interesting, I shall limit my remarks to fractures of the base.

The indication in fracture of the vortex of the skull is, as Dr. Sherrill has stated, very plain. In fracture of the base the question of operation or the expectant plan of treatment is one that, for me, has always been very difficult of decision. In cases that are immediately unconscious and present no focal symptoms, I do not see how it is possible to make a diagnosis of either the location or probable extension of the fracture. A perusal of the literature on the subject would indicate that the majority of operators of largest experience prefer to do decompression operations in all cases of fracture of the skull attended by coma. In my own personal experience, I have not been, and am not yet, able to determine whether decompression is of any great value in these cases, since, as brought out in Dr. Sherrill's report, many of them recover without decompression. Therefore, except in those cases where there is a distinct haematoma, either intradural or subdural, I have been unable to decide, to my own satisfaction at least, that decompression has been of any service. The old rule in these cases was to await the onset of definite evidence of compression, which is practically always due to hemorrhage. If due to oedema of the brain, depression will, as a rule, do no good. In those cases where we are able to find a distinct haematoma (and unless focal symptoms are present it is impossible to say in which region of the brain such clot exists), decompression is usually done through the sub-temporal fossa.

Still another type of cases is that in which there is no coma; in which there is high temperature, sometimes going to 104 or 105 within the course of three or four hours following the injury; in which there is delirium; the pulse instead of low, is high; there are practically no pupil signs and no focal symptoms. I have such a case at present that is getting well without decompression. On the contrary, I have done decompression in such cases and they have recovered. Therefore, I do not know whether or not decompression does any good in these cases.

Possibly Dr. Sherrill will recall a symposium on this subject at the meeting of the American Medical Association, two years ago, in which the

most diverse opinions were expressed in regard to whether or not decompression was of any value in fractures of the base where there is no distinct indication for decompression in the shape of focal lesions.

W. C. Dugan: The question of the diagnosis of basilar fracture is very interesting. One point that I would like to call attention to is spinal puncture, which the essayist did not mention, but which I think is very valuable in making diagnosis of fracture of the base. If we find hemorrhage, we can feel pretty certain of the existence of a fracture. In fracture of the posterior fossa, palpation of the posterior pharyngeal wall is valuable, because there is always extravasation of the cerebro-spinal fluid at this point.

Hemorrhage from the ear is one of the most misleading of symptoms. I have seen a number of cases in which diagnosis of fracture had been made, but upon examining the patient and going carefully into the history, it proved to be nothing more than hemorrhage from ulceration of the membrane. Such hemorrhage is of short duration and almost always arterial, while hemorrhage from the ear in basilar fracture is persistent and venous, and there is always a considerable quantity. We may have a fracture of the base, through the middle fossa, without the extravasation of cerebrospinal fluid, but it is invariably present when we have a fracture going through the petrous portion of the temporal bone and tapping the sheath of the nerve. There we have a large amount of fluid. Sometimes we have a fluid very much like it, coming from the cells, that is sometimes diagnosed cerebrospinal fluid, but it is not present in such quantities as when we find the cerebrospinal fluid.

I agree with Dr. Abell in regard to operation in these cases. Not long ago I was called to see a patient who had been unconscious from the time she had been thrown violently from her buggy against a tree. I saw her several days afterwards, and refused to do anything in the way of operation, advising purgation and the application of cold to the head. I firmly believe that patient would have died on the table. I do not mean to imply that I weighed my reputation against the patient's life, but I do not believe operation would have given the patient any chance. In a case of that kind, where there are no focal symptoms, and nothing to indicate where to attack the condition, I think it is best to leave them alone. In such a case there may be no fracture of the skull. It has frequently been demonstrated that the brain may be absolutely pulsified by striking the head with a sandbag, or even a solid instrument, without fracturing the skull. Again, we may have a fracture of the inner table, which is very brittle and easily broken.

When I am called to see a patient that has been unconscious since the injury was received, where I find evidence of depressed bone and the patient

is in profound shock, and where the symptoms of concussion are not predominating, I will operate, with the understanding that the chances are the patient will die. I have seen a great many cases, and I can recall but one patient, unconscious from the time of the accident, that recovered. They do not die from hemorrhage, but simply from injury to the brain. I believe that in nearly all of these cases the unconsciousness is due to laceration of the brain tissue. If nature is able to cope with it, the patient will recover, but their recovery will be very slow.

I recall the case of a man who was kicked out of a saloon one Sunday night after being struck on the head with a beer glass. He finally got up and went home, and the next morning he had a "Monday headache" and did not go to work. He worked Tuesday, Wednesday and Thursday, came home cross and slapped the children around and abused his wife. On Friday he complained of headache and slept a good deal. Saturday morning he did not get up, and on Saturday evening his brother came in from the country and found him in a sort of stupor. On Sunday night the brother asked me to come and see him, but I told him it was entirely useless; that his brother had a fracture of the skull with hemorrhage, and to take him to the Infirmary at once. He was operated upon and a large hemorrhage found.

These cases are all the same; the symptoms are either due to hemorrhage or to pressure upon the brain as the result of depressed bone.

In regard to the prognosis, I want to state again that, in fracture of the vault, where the patient is conscious immediately after the injury and later lapses into unconsciousness, if you see him early enough, you may be able to save him; but where the patient is unconscious from the time of the injury, and does not react after a reasonable length of time, they will practically all die. If any such cases recover it will only be after a very long and tedious convalescence.

A. David Willmoth: This is a most excellent and interesting paper, and I think the majority of us are in accord with the most important points that have been covered by the essayist and the other speakers.

The point brought out by Dr. Dugan, about puncture of the spinal cord, is a most excellent one for two reasons. It enables us to tell, not only whether there is a fracture of the base of the skull, but also whether it extends through the bone and soft structures into the ventricle. There is just one danger; that is, the jamming down of the base of the brain into the base of the skull, or into the foramen magnum. This can be obviated if, at the time the puncture is made, we will force back into the canal the fluid that has been withdrawn for diagnostic purposes. This is done on first evidence of dangerous symptoms and before syringe is withdrawn.

I agree with Dr. Dugan in regard to fractures

of the vault. Those that go along with the so-called free interval with focal symptoms of a local lesion, are all amenable to surgical treatment, and, with very few exceptions, get well. On the other hand, those that are unconscious from the beginning, indicating that we have laceration of the brain substance instead of hemorrhage to contend with, will almost every one die.

This brings me to the point brought out by Dr. Abell. He stated that he has a case, in which there was a rapid rise of temperature to above 104 degrees F., that is recovering. Those of you who are familiar with the work that Phelps has done along this line will remember the table laid down by him, showing that those cases with a primary temperature above 103 will practically all die, and those with a secondary temperature above 105 will practically all die. It is interesting to know that Dr. Abell's patient, with a primary temperature of 105, is recovering. This would seem to be an exception to the rule laid down by Phelps.

In fractures of the base not attended by focal symptoms, sometimes the escape of blood from the ears or from any part of the body, will relieve the pressure on the brain; or, if there is free escape of cerebrospinal fluid, the same end will be accomplished.

I think Dr. Abell's remarks are well taken, and his views should be of value insofar as the operation of decompression is concerned. At the present time I have under observation, in the infirmary, a young man whom I first saw about a week ago. He had been run over by a heavy wagon, sustaining a fracture of the base of the skull, with a hematoma in each eye, and he had bled profusely from both ears. I did not attempt operation for the reason that he had no focal symptoms pointing to any localized lesion, and also for the very good reason that, following immediately upon the heels of the accident, there had been an escape of blood from the ears which lasted several hours, as well as a profuse flow of cerebrospinal fluid from the ears, and this accomplished what I would have done by a decompression operation. Nature took care of his brain and relieved it of the tumor which might have formed in the cranial cavity by allowing a free escape of cerebrospinal fluid. To-day this man has a practically normal temperature, with a pulse ranging from 60 to 80; and, with the exception of double vision which developed a short time after the injury, he seems to be in pretty fair shape and is taking light nourishment. He had a dilated and fixed right pupil, which is the only local lesion that can be seen in this man.

J. Garland Sherrill, (Closing): I regret that, because of lack of time, I did not read the entire paper. Some of the points about treatment that have been brought out were covered in the paper.

I think the case reported by Dr. Abell is illustrative of a very important class, and I am of the opinion that such cases get well just as readily

without the decompression operation as they do with it; in other words, I do not think decompression is of much value in fractures of the base. In some instances of fracture of the vault, I have seen this occur: The patient will be unconscious and show evidences of pressure, but without focal symptoms, and when the skull is opened it is found that the brain is not pulsating and bulged out. If you cut the dura the brain bulges so that it is difficult to suture the dura and you have a very difficult operation. With a number of small hemorrhages into the brain and laceration of brain tissue, you are unable to relieve the tension by operation. I have never seen a case get well in which the brain did not expand up to its normal level after removal of a blood clot. I do not recall a case that got well where the tension was very great and the pulsation was not relieved by opening the dura.

I did not mention puncture of the spinal cord as a diagnostic measure for this reason: It is a dangerous procedure. When you withdraw fluid from the cavity of the spinal cord, you withdraw just that much fluid from the cranial cavity. The pressure below is lessened very suddenly, and the pressure above, being very great, is apt to force the medulla oblongata and the pons into the spinal canal very quickly, which may result in respiratory failure and death.

I have seen recent reports on the decompression operation where marked benefit followed this procedure; but, as Dr. Abell has said, it seems that these patients will get along just as well without it. It is possible that laceration of that portion of the brain that controls the development of heat may be responsible for the high temperature, and it is also possible that the patient may have a thin layer of blood at the base of the skull which may give rise to an elevation of temperature, but a sudden development of high temperature looks more like laceration of brain tissue, and I believe these cases get along better without decompression.

A Voice: Do you favor the administration of hexamethylenamin in large doses with the object of forestalling the possibility of infection in the brain? Would you advise washing out the ears or merely wiping them out?

J. Garland Sherrill: Under the head of "Treatment," in my paper, I described the method of cleansing the ears that I prefer. I consider it dangerous to irrigate the ear canal. We may rupture the drum, or lacerate the wall of the canal, so that blood can pass through and possibly carry infection within. I do not use peroxide for that reason. If I use any antiseptic at all it is alcohol on a sponge, or I simply use a moist sponge sufficient to take up the fluid in the canal.

I did not mention the use of hexamethylenamin in my paper, but I believe it is very valuable as a means of preventing infection in the brain.

LA-GRIPPE.

By S. SCOTT PRATHER, Louisville.

My decision to present this subject to the society to-night is to endeavor to bring forth a discussion as to the treatment of this greatly maligned disease. The large majority of you possibly think that la-grippe is a disease of minor importance and hardly worthy a serious thought, only a cold in the head, or a very slight disturbance that will be easily overcome by taking a dose of calomel and quinine, filling your patient up on acetanilid, phenacetine, antipyrine or some of their derivatives. In my opinion this is unquestionably one of the hardest and most difficult diseases that the general practitioner has to combat, on account principally of the after effects. Please do not confound la-grippe with coryza or a slight cold, for we know the former is an acute specific infectious and contagious disease, it is sporadic, epidemic and pandemic. We first learned of this disease in the winter of 1889-90, when it was pandemic. The cause of la-grippe is a minute, non-motile micro-organism, (the bacillus of Pfeiffer) which is capable of manufacturing toxins which possess great depressing power as well as by some unknown way, possibly by lowering the vitality, opening the way for infection of the tissues by other microorganisms. The bacilli can easily be obtained from the sputum in the early stages of the disease. How the bacillus produces the disease is not very well understood, one attack often predisposes to subsequent ones. The exact source of contagion from personal contact is rare; it seems as though the disease came from the saturation of the poison in the atmosphere. We may possibly prevent an attack by building up or toning up the system of one with lowered vitality thereby increasing the resisting power. In the great majority of cases the onset is sudden with chilly sensations or chills followed by fever of from 101 to 105 degrees F., rapid pulse, intense shooting pains in eyes, head, joints and muscles all over the body. We also have chilliness along the spine, sneezing, coryza, eyes water, sometimes hoarseness, sore throat, and often a very troublesome dry hacking cough, the tongue is furred. Sometimes indigestion, nausea, vomiting or diarrhoea. Depression and debility intense, out of all proportion to the symptoms. In mild, uncomplicated cases the fever terminates by crisis in from three to six days. The complications most frequently encountered are first and foremost lobar and broncho-pneumonia, then spinal meningitis and cardiac-neuroses may be encountered. The sequelae may be phthisis, insanity, insomnia, neuralgia, neuritis, neurasthenia, headache, and enlarged

lymphatic glands, especially is the nervous system affected causing affections of the brain, spinal cord and peripheral nerves. The frequency of suicide and neurasthenia after la-grippe has often been noted.

It is very important that we recognize la-grippe as soon as possible and not call it spinal-meningitis as has been done quite frequently of late. The earlier we begin treatment the better. We must bear in mind the suddenness of the attack, catarrhal condition, general malaise, intense depression and intense pains practically all over the body, but may be localized. Isolated cases may be mistaken for a number of diseases, especially typhoid fever or acute bronchitis.

The prognosis is good in an uncomplicated case; care should be exercised by the physician in watching the action of the heart and kidneys and at the first sign of either failing to perform their full functions then they should be assisted by giving a cardiac stimulant or a diuretic as the case may be. Nearly all existing diseases are aggravated by la-grippe, therefore I want to emphasize the necessity of carefully watching the patient who has any cardiac trouble, nephritis, or any disease of respiratory organs. It is my custom when treating a case which I have diagnosed as la-grippe to order a hot bath, the patient gets a great deal more relief from hot baths than from cold—patient put to bed, covered up well to allow free diaphoresis, administer a good purge, preferably podophythin gr. 1-12; aloes soc. calomel each 1-2 gr.; sodium bicarb. gr. 1; pulv. rheu. gr. 2 1-2 in each capsule, giving one every two hours and prescribe for any special condition that may be found. As a good cough remedy for the dry, hacking cough, the benzoin vapor; for catarrhal conditions, quinine in large doses at first, then in small and long continued doses. The after-effects of la-grippe are depression and this depression is decidedly increased by the continued use of coal tar derivatives. We must realize that acetanilid should not be used at all, that phenacetine, its derivatives, as salophen, lactophenin, exalgine, etc., produce blood changes and collapse, that synthetic salicylic acid and its products as salol, salophen and aspirin produce very unpleasant and sometimes fatal heart complications, that antipyrine and its products salipyrine and pyramidon, especially in fever, may produce collapse. We should never use them in continued fevers in large doses because the cause of the lesion is not removed and their bad effects there is a retention in the blood and the recovery of the patient is delayed. We may use these drugs occasionally but it must be done to meet indications only and not for too long a time. Diet, restricted practically to liquids, sometimes allow milk toast with

pounded egg, no acids to be taken, sweets restricted to keep the stomach in good condition. Patient kept in bed for at least two days after normal temperature has been established. Have them gradually to take exercise, partake of semi-solid food and give a raw egg in half a glass of sherry wine three times a day through convalescence. Give them a tonic of strychnia and pepto-manganate iron and manganese for quite a while after they think they are well.

By carefully watching the kidneys, heart and respiratory organs, thorough elimination by the skin and bowels, proper regulation of diet, you will soon have a well and grateful patient who will ever sing your praises and pay your bill.

DISCUSSION.

Virgil E. Simpson, (Said in part): That phase of la grippe which has impressed me most profoundly, is the after effect—the impression made upon the nervous system, the influence upon the cardiovascular, system, etc., which are oftentimes serious and, in not a few instances, result fatally.

The impression made upon the nervous system of the patient is a most profound one, and recovery from this clinical type of the disease has been the most tedious, protracted and least satisfactory of any form that I have encountered.

Early in my professional work I was taught to have the most profound respect for la grippe. During my service as an interne in the City Hospital, in securing the histories of the many persons that passed under our observation throughout the year, it was a revelation to me to observe with what frequency patients would date the beginning of their present trouble from the time they had suffered an attack of la grippe. There is no question in my mind that, while the acute manifestations of la grippe are most distressing to the patient and cause considerable worry and concern, the most serious phase of the disease is the after-effect. We can never be certain just when we are rid of the disease and its sequelae. It is a most treacherous condition, both in the acute symptoms and the more remote manifestations. So far as the acute condition is concerned, it not infrequently occurs that, following a course of treatment of any sort that the physician may elect, the patient is apparently on the high road to recovery, and in a few days he is called back to find confronting him a condition as bad or worse than the initial attack.

Wm. A. Jenkins: La grippe, as a clinical entity, is more to be dreaded on account of its possibilities than because of the condition itself. This is particularly true because, in many instances, the initial attack is so mild that the individual is not forced to leave his occupation and go to bed, as ought always to be done, because where this is not done, the patient is prone to

have a secondary attack such as the last speaker has just mentioned.

As a rule, the force of the disease expends itself upon one of three systems—the respiratory, gastrointestinal, or nervous system. As a matter of course, then, the symptomatology, pathology and plan of treatment must be worked out in each individual case according to the system that bears the brunt of the attack.

The toxin manufactured by the bacillus of grippé seems to have an especial predilection for the nervous system and the cardiac mechanism; it seems to have the power of combining with the neurons, or with the cardiac muscles, and it is these conditions that give us the greatest amount of trouble.

So far as treatment and general management of the disease is concerned, in the main I agree with the essayist. I think a patient with the grippé is best off in bed, where he can be watched carefully and carried through to convalescence under appropriate treatment. However, I certainly disagree with the essayist in regard to the use of phenacetin or other of the coal-tar series, in the febrile aching stage of the acute disease.

I believe that, when a person is first seized with intense rigors, intense pain in the joints and limbs, high temperature, chattering teeth, etc., we get a specific action from remedies selected from three groups; namely, the salol group, the coal-tar group, and the salicylate group. A combination of these three remedies will break the brunt of an attack more frequently than any other drug I know of. The patient is made comfortable, because bathed in perspiration, the temperature lowered and the pain relieved, and I do not believe that, used in this way, there is even a remote possibility of these drugs affecting the cardiac muscle. It is not drugs that do the damage to the cardiac muscle; it is the toxin manufactured by the bacillus.

The nervous type is, of course, the hardest to manage, but in any type the patient should be watched through the attack and should not be permitted to get up and about, and go back to work as soon as the pains are gone. They should be told, in every case, of the possibilities of this disease and should be kept under observation and treated accordingly.

J. Rowan Morrison: I once heard a man read a paper on "Just Mumps," and I think too many of us are prone to refer to this condition as "just grippé." Personally, I have learned to speak very respectfully of this disease. It is certainly potent for a great deal of harm. I do not think the ordinary layman has near the respect for la grippé that he should have, because, whatever our treatment may be, the patient usually gets better after a few days, unless it is a very severe case, and then he wants to resume his ordinary occupation and go about from place to place, and it has been my experience that when this is done, the individual invariably suffers a relapse and

gets worse, and it is this that lays the foundation for the various sequelae which lead to such distressing after-results.

That la grippé is a serious infection there is no doubt. There are many cases of so-called la grippé that are not really grippé, but are simply due to weather conditions producing a myalgia, mild attacks of tonsillitis, and other conditions which the physician as well as the patient attributes to la grippé, but careful observation will show that these cases do not have a rapid pulse, and other characteristic manifestations of la grippé. Although, as Dr. Jenkins has stated, the attack may very often be a mild one, still, even in the milder form, there is almost invariably an acceleration of the pulse, and some depression following.

I agree with the last speaker in regard to the treatment of this condition. The first and most important thing is rest. A patient with la grippé, even though it be a mild attack, should be put at rest in bed for some time, and where the condition is severe the rest treatment should be carried out for a considerable length of time. The nutrition of the patient is affected, because we have a true toxemia to deal with, which has a very distressing effect upon the nervous system, and through that upon the heart. Therefore, it is very important that the nutrition should be maintained—just as much so as in typhoid fever, or any other condition of that kind, because we have here, not only a toxemia, but a febrile condition that requires a considerable amount of nutrition.

I think it is right to give these patients something to relieve the pains which they ordinarily have in the earlier stage of the disease. As a rule, the types of drugs mentioned by Dr. Jenkins are used for this purpose. They are good drugs, and I do not see any reason why they should not be used with discretion, any more than I see any reason why digitalis should not be discretely used in heart disease. The patient should be put to bed in a warm, well ventilated room. Then the supportive types of drugs come into play.

As Dr. Prather has said, a great deal depends upon whether the patient is willing to stay in the house and keep quiet until his nutrition has properly recovered. A very important thing to look out for is the condition of the heart. As has already been stated, this disease lays the foundation for old latent conditions to actively manifest themselves. We frequently see heart conditions brought out by an attack of la grippé. Tuberculosis is often brought to a stage where it runs a very rapid course, after the patient has suffered an attack of la grippé. These and many other complications and sequelae make it imperative that we look upon la grippé as a very severe condition.

Another important thing is the care of the throat and nasal passages during an attack of la

grippe. The teeth and mouth should be kept scrupulously clean, and some simple throat solution or spray should be used. If possible to do anything in the nose, some mild spray should be used there. In other words, the thing is to use some simple and non-irritating means of keeping the air passages and oral cavity as clean as possible. By this means some of the conditions that give our friends, the eye, ear, nose and throat specialists, a great deal of work every spring could be prevented.

W. T. Bruner: The subject of la grippe is very interesting to me because of its complications and sequelae, particularly about the nose and throat, and also the ear. This disease frequently begins with a coryza, and in looking after the nose, particularly in the stage of severe coryza, we should be very careful about using a spray. The mucous membrane is highly congested as a rule, and bleeds very easily, and the use of a spray is apt to cause it to bleed and do more harm than good. If a spray is used in the beginning of the coryza, it should be an oily preparation and not a watery solution, and it should be used in a nebulizer that breaks up the oil particles. These oily preparations do not give rise to any irritation, but, on the contrary, are quite soothing to the mucous membrane.

La grippe is often followed by inflammatory troubles about the nose and accessory sinuses, and we frequently see severe middle ear trouble from it. I wish to enter a word of protest against the use of quinine in this condition. I do not think it should be used, for the reason that it has a bad effect upon the mucous membranes of the nose and throat as well as the ear. I recall a case that I saw about two years ago in a boy twelve years of age, who was rendered completely deaf, evidently from the use of quinine. He had taken only six or eight grains in two-grain doses, and was completely deaf. He was under my care for a month and did not improve any. Then he went back to Florida and I have never heard from him since. I do not know whether he has recovered his hearing or not.

La grippe is often followed by serious trouble in the upper respiratory passages, and these should be carefully looked after in all cases.

Bernard J. O'Connor: I have always looked upon the diagnosis of la grippe in a great many cases with a great big question mark. The average doctor uses the term la grippe with the same freedom that the vast majority use the word rheumatism; both are used to cover a great deal of ignorance. That we have sporadic and epidemic types of la grippe is an unquestionable fact. Any one who has ever made a considerable number of sputum examinations knows that many specimens contain the bacilli of influenza in predominant numbers. A positive diagnosis of la grippe without a sputum examination, is a very difficult problem. I have seen so many mild and severe types of infection, not

grippal in nature, but which were diagnosed as such, that I always regard such diagnosis with a great deal of doubt.

One point brought out by the essayist in regard to the pathology of la grippe has been contradicted by many of the best authorities in this country and in Europe. In a long article which appeared in a recent number of the *Journal of Experimental Medicine*, detailing the results of autopsies in eight cases of la grippe, it was stated that no trace of lobar pneumonia could be detected in any of these cases. Lobular pneumonia is about the only true type of pneumonia that comes from influenza.

The essayist made the statement that a great many cases of la grippe are diagnosed as cerebrospinal meningitis. I hope that the symptoms of the latter condition are never sufficiently cloudy to lead one to make this mistake. However, we do have in influenza, an influenzal meningitis that is somewhat similar in its pathology and symptomatology to the cerebrospinal type.

As to treatment, I do not know that I can add anything to what has been said. I do not like straight quinin. In large doses it is apt to give the patient a feeling that is almost as bad as the disease for which it is given.

The essayist made the statement that the synthetic salicylate of soda is very detrimental to the blood and is not to be advised. Experiments made by the board recently appointed by the American Medical Association, have shown that the synthetic preparation is almost as reliable and beneficial as the natural.

A. W. Nickell: I want to agree with Dr. O'Connor as to the pathology of la grippe. It has been demonstrated that, in epidemic influenza, all of the symptoms referable to the respiratory form of the disease have been largely of the type of broncho-pneumonia.

As regards quinin, I am opposed to that mode of treatment, but a great many leading authorities are using euquinin and claim to be getting very good results from it.

I also want to agree with the gentleman who advocated the synthetic salicylate treatment, except in regard to acetophenetidin. I combine caffeine with that and alternate with salpyrin, and I have never seen any cardiac depression from it such as we get from the straight coal-tar derivatives.

Just another word in regard to the respiratory form of this disease. Where there is a rather slowly resolving pneumonia and possibly a bronchitis lasting for some time after the patient has partly recovered, the use of carbonated creosote, in 30 to 40 drop doses, every two or three hours, has given me the best results of any preparation I have ever used.

S. Scott Prather, (Closing): In closing I wish to call attention to one point that was brought out in the paper. I stated that it is my custom, in treating la grippe, to always put the patient to

bed. This seems to have been overlooked by some of the speakers.

I also wish to call attention to the fact that I did not say we should not use any of the coal-tar derivatives, but that their use should not be continued over a long period of time. They should be used to meet the occasion only, and not continued for too long a time.

I also made the statement, in my paper, that "all existing diseases are aggravated by la grippe; therefore, I want to emphasize the necessity of carefully watching the patient who has any cardiac trouble, nephritis, or any disease of the respiratory organs." Of course, if a patient has heart trouble, or tuberculosis, or anything of that sort, an attack of la grippe will aggravate it. The use of the coal-tar derivatives in moderation, and under the care and watchfulness of a physician is all right, but we all know persons who take as much as forty or fifty grains of aspirin a day, and phenacetin the same way, and I do believe that this is injurious.

As to Dr. O'Connor's remarks in regard to cerebrospinal meningitis, I will say that I know of one doctor who diagnosed five cases of la grippe as cerebrospinal meningitis during the epidemic of the latter disease here last spring.

PARINAUD'S DISEASE

(WITH REPORT OF CASE.)

By J. H. SIMPSON, Louisville.

I feel that I must apologize for this paper coming under the head of an essay, because of the limited knowledge we have of this disease, and it should more fittingly be described as a case report.

Parinaud's conjunctivitis is one of the rare conditions of the eye little seen by us, although it is most common in the temperate zone.

It is supposed to be of animal origin, but as yet no microorganism has been isolated.

It is unilateral and the onset is similar to that of acute trachoma; also the elevations are like unto trachomatous follicles, except that they are more or less pedunculated and often occupy sites upon the bulbar conjunctiva. The preauricular, retro-maxillary and cervical glands are usually enlarged and oftentimes one or more suppurate.

I have given you a brief outline of this condition in order that you might follow more closely the case I have to report.

The late Dr. T. C. Evans asked me, sometime before his death, to report the following, and I have taken this opportunity to do so.

During the summer of 1910, a gentleman from the southwestern part of the State, accompanied by his son, aged twelve, came to the office for consultation regarding the condition then existing in the child's right eye.

PREVIOUS HISTORY.

Boy had numerous diseases of childhood. Several years before left eye had been removed because of penetrating injected wound of eyeball. For about ten days previous to this visit, the child had been suffering with great pain in head accompanied by chills, and high fever, with hallucinations and which was diagnosed as meningitis.

Upon examination we found:

OBJECTIVE SYMPTOMS.

Thickened and oedematous condition of right eye lids; palpebral and ocular conjunctiva very red and angry-looking; one or two pedunculated bodies, grayish red in color about the size of an hemp seed, just above sclero-corneal margin and to the right of the perpendicular meridian. To the right of this was a larger body with erosion of the apex. There were several more of these bodies scattered over the ocular conjunctiva, having distinct ulceration within the sulce between.

The right preauricular gland was much enlarged and suppurating. The retro-maxillary and some cervical glands were enlarged.

The diagnosis of Parinaud's conjunctivitis was made and patient referred to Deaconess Hospital where purge, irrigation of saturate solution boric acid z 1 h. and instillations of argyrol z 4 h. were ordered.

After several days the swelling, pain and fever had subsided and realizing the length of time generally allotted to the ultimate recovery of these cases the boy was allowed to go home, he making an uneventful recovery in several weeks.

DISCUSSION.

W. T. Bruner: This case is very interesting because of its rarity. It is an extremely rare condition of the conjunctiva, and from the literature we would infer that very little is known about it. Some of our text-books do not even mention it, and those that do give only twelve to fifteen lines description of it.

As the essayist stated, it seems to occur among those who are about animals a great deal. One interesting feature about this case is the time of recovery; they usually take a much longer time for recovery than in this case. It is described by some authors as a lymphoid condition of the conjunctiva, and by others as polypoid condition, resembling very much the polypoid growths found in the nasal passages. The condition is usually unilateral, and an interesting feature of it is the great involvement of the lymphatic glands of the same side, indicating that it is a lymphatic condition of the condition of the conjunctiva.

J. H. Simpson, (Closing): I have nothing to add in closing except to corroborate what Dr. Bruner has said. I am sorry Dr. Ray is not here, because he also saw this case and it was with his help that I made the diagnosis.

CLINICAL CASES.

GONORRHEAL RHEUMATISM.

(PRESENTATION OF PATIENT AND REPORT OF CASE).

By J. A. O. BRENNAN, Louisville.

This man, who is a policeman, has been under the observation of myself and others for about six years. When he first presented himself, both feet and both knees were involved. I have tried everything I have any confidence in for this trouble, but he does not seem to improve at all. The soreness and swelling that he formerly had in the knees has vanished, and the trouble is all in his feet now. Under vaccine treatment the old gonorrheal condition subsided.

Dr. W. B. Owen saw this man about a year ago, and fitted him with a brace for his foot, and without the brace he does not seem to get along at all. He is a policeman by occupation and it is essential that he get around a good deal. Fortunately, however, he is a mounted policeman.

I have given him very little treatment up to a month ago when I tried the Schafer vaccine on him, but I have been unable to see any results from it. He refuses to have it any more because of the terrific reaction, from which he suffered a great deal. I gave him the last injection in the leg because the arm was so sore.

I had an X-ray picture of the foot made, thinking he might possibly have some exostosis there, due to the old gonorrheal condition, but it revealed nothing of importance.

I would be glad to have you inspect the foot and give your opinions.

DISCUSSION.

Edwin T. Bruce: About one year ago this gentleman was referred to me by Dr. Brennan for a radiographic examination of his foot, and at that time a diagnosis of flat-foot was made. We know that, in this condition, the pain is often referred to the knee and also to the thigh; there is always swelling and very great discomfort. I think the solution of this man's trouble would be a properly fitting arch, and that the condition is nothing but simple flat-foot.

Jno. B. Richardson: This looks to me like more than a weak foot. I think the term "flat-foot" is a bad one to use, because a great many weak feet are not flat, the arch showing no evidence of breaking down.

The first thing I noted in looking at this case was the very bad shoes the man is wearing. As a primary measure, I think his shoes should be changed.

Dr. Bruce made a good point when he suggest-

ed the application of properly fitting plates. The plates he is wearing are old and it would probably be a good plan to have a new cast taken and properly fitting plates made.

Bernard J. O'Connor: Along mechanical lines, one point that has not been mentioned is the benefit that follows certain exercises in this class of cases. Wilson, of Philadelphia, lays more stress upon the importance of exercise of the muscles than he does upon the application of an arch; in fact, he claims that, in many cases, an arch will do harm by giving artificial support and causing the ligaments, through pressure, to atrophy. He advises exercise with resistance, to be carried out several times a day after a hot foot-bath.

Another important point is the manner of walking. As a rule, these patients walk with the toes turned out, and in that way throw all the weight directly upon the inner side of the arch. They should be instructed to walk with the toes turned in, so as to throw the weight on the outer side, and the strain will not be so great. The same thing applies to standing; instead of standing with the toes turned out, they should be close together.

W. W. Klein: I agree with Dr. O'Connor that the value of massage and exercises in these cases is often underestimated. It is really wonderful what results we can get in these chronic conditions by the employment of passive motion in one form or another. Often when a case of this kind is put under a proper course of treatment, while the response is usually slow, the condition will get gradually better until the patient himself hardly realizes the result that has been obtained. I recall one case in particular in which massage was practiced persistently—every day—for a month and a half, and the result was very marked indeed.

Speaking of gonorrheal arthritis in general, I want to call attention to the use of extremely high temperatures of dry heat. Subjecting the affected part to a temperature of 500 to 550 degrees F., for a hour or an hour and a quarter, will produce a superficial burn and very often will correct the condition entirely.

W. Barnett Owen: I had the pleasure of seeing this case with Dr. Brennan a year ago and while the condition is better to-night than it was at that time, still there is something more needed.

I hardly believe this is a case of simple weak-foot, because there is not enough rigidity. The patient can easily throw his foot into several positions. He has obtained some relief from the brace, which was made from an actual cast of the foot. It was trimmed out over the inner border to throw the foot in and give as much pressure as he could stand at that time. I believe it would be a good idea to make another brace, putting more pressure on the inner border of the

foot in order to throw the weight on the outer side.

He has had massage—all that he could stand, and has also had hot fomentations, hot-air, etc. Dr. Brennan has sent him to the best men in each line in the city, and I believe he has made a thorough study of the case. Still I hardly think the patient has gotten what he needs.

J. A. O. Brennan, (Closing): I wish to thank the gentlemen for their liberal discussion of the case.

I do not think there is any question about it being a gonorrheal condition. To my mind, it is something more than simple weak foot. The X-ray picture shows distinctly the condition that existed, and the question came up at that time as to whether or not it was flat-foot. I suggested that there might be something on the os calcis, the removal of which would do him good. Dr. Moren treated him with electricity for a while, with only temporary benefit.

The intravenous injection of the Schafer vaccine might do good, but it is hard for him to lose time from his work. I have had good results from the vaccines in other conditions, such as epididymitis, chronic gonorrhea, etc., and it might give good results in this case, but it would be necessary for him to go to the Infirmary for a while.

I think I will adopt the suggestion to get another arch made.

ACUTE ARTICULAR RHEUMATISM TREATED WITH PHYLACOGEN.

(REPORT OF CASE.)

By EDWARD B. RICHIEY, Louisville.

Mrs. H., age 65, white, female, married, housewife.

DIAGNOSIS.

Chronic articular rheumatism.

HISTORY.

Mother of eleven children, seven of whom are living and in good health. Husband, age 70, in good health and very active. Father died at the age of 64, cancer of stomach. Mother died age 30, childbirth. One brother living in good health; three brothers died in infancy. No sisters. Usual diseases of childhood; no history of rheumatism in family.

SYMPTOMS.

Subjective: Thirteen years ago feet and ankles pained when first getting up in the morning. Went to "Springs" that summer but received no benefit. One year later knees hands, fingers and elbows became involved necessitating the use of crutches at times. Eight years ago had to resort to crutches all the time and then had great difficulty in get-

ting about and suffered great pain, unable to turn in bed without assistance.

Objective: Slight seal-fin deformity of both hands; both knees and both elbows slightly ankylosed; pain in all these joints, also in hips and shoulders; cannot turn in bed without assistance. Has been unable to walk, even with assistance of crutches, for past three months. Suffers with insomnia on account of pain, appetite poor; vertigo; practically bed-ridden; is very fat and heavy.

TREATMENT AND RESULTS.

Spent one winter in the South, has taken all the rheumatic remedies, osteopathy, hot baths, constitutional and local measures, with only very temporary relief and a return of former pains much exaggerated.

February 8, 1912.—Rheumatism phylacogen, 2 c.c., subcutaneously. No reaction, systemic or local; no change in symptoms. Temperature, pulse and respiration normal.

February 9th.—Rheumatism phylacogen, 5 c.c., subcutaneously. No special reaction noted. Ate hearty dinner. Kidneys very active. Temperature, pulse and respiration normal.

February 10th.—Rheumatism phylacogen, 7 c.c., subcutaneously. Temperature slightly subnormal; appetite not so good; somewhat depressed.

February 11th.—Temperature, pulse and respiration good; appetite normal; no phylacogen to-day.

February 12th.—Rheumatism phylacogen, 2 c.c., *intravenously*, given very slowly (four minutes time). Thirty minutes after injection had chill lasting 55 minutes. Nausea, vomiting, headache, occasional blindness; very thirsty. Maximum temperature 103; pulse 120. Reaction gradually subsided; slept well, turned in bed without assistance and ate fine breakfast next morning.

February 13th.—Rheumatism phylacogen, 4 c.c., *intravenously*, taking five minutes' time to give injection. Forty minutes after injection had chill lasting 20 minutes; severe headache; temperature 102.4; pulse 120; pains in joints; numbness over body. Slept very well, and ate light breakfast.

February 14th.—Rheumatism phylacogen, 5 1-2 c.c., *intravenously*; five minutes' time taken to administer this dose. Twenty-five minutes after injection, chill lasting one hour, not so severe as yesterday; no headache; thirsty; very comfortable. Maximum temperature 101; pulse 102.

February 15th.—Rheumatism phylacogen, 8 c.c., *intravenously*. Thirty minutes later had chill lasting 45 minutes; sleeping off and on; thirsty. Maximum temperature 101.2; pulse 108. Light diet; practically free from pain.

February 17th.—Rheumatism phylacogen, 10 c.c., intravenously. Fifteen minutes later had chill lasting 35 minutes; no headache; maximum temperature 101.2; pulse 102; light diet.

February 17th.—Rheumatism phylacogen, 10 c.c., intravenously. Fifteen minutes later had chill lasting 45 minutes. Maximum temperature 99.4; pulse 90; slept in afternoon; felt fine.

February 18th.—Temperature, pulse and respiration normal; slept fine last night; ate heartily; walked on crutches and sat up nearly all day.

In giving the intravenous injections, endeavored to allow about one minute for each c.c.

CONCLUSIONS.

The results in this case are, as the son in a letter to me this morning put it, "almost incredible". The case having continued over a period of twelve years, the patient being unable to move her body, even in bed, when we began the Schafer treatment, justifies the above statement. I heartily endorse its use, but find it necessary to administer laxatives and tonics at the conclusion of the intravenous treatment. Am convinced also of the necessity of extreme care in the technique and in close observation of the patient as to the vital parts during the treatment. I believe the intravenous method is the method *par excellence*.

This patient is practically free from all pain, says she feels better than for twelve years, has free motion, can extend her limbs several inches more than before treatment. She cannot find words to express her satisfaction and gratification.

DISCUSSION.

Oscar E. Bloch: I would be glad if Dr. Richey, in closing, would give his technique for the intravenous injection of the vaccine.

Irvin Lindenberger: I would like to ask Dr. Richey how many injections he gave in all?

Edwin B. Richey, (Closing): In answer to Dr. Bloch's question, of course it is necessary to employ very careful technique in making intravenous injections. In every instance, it is my custom to boil the instrument to be used for an hour and a half, and then to very carefully sterilize the part before giving the injection. In this case the injections were made in the median axilla, in each instance taking five minutes to introduce the needle, very slowly and carefully. After the needle is introduced, always withdraw the blood before injecting the phylacogen, watching the pulse and the general condition of the patient carefully. In no instance did I have any local irritation following an intravenous injection. Of course you know, if you have had

any experience with vaccines (and sometimes with serums), that there is usually quite a good deal of local reaction following subcutaneous injection. This is also true of autogenous vaccines. In this case the local reaction was very decided, and the patient complained greatly because the arm was so sore and tender, and this reaction continued for some time. That is one of the objectionable features attendant upon subcutaneous injection. The first three injections were given subcutaneously. It was my purpose to determine the degree of susceptibility of the patient to the vaccine, which was practically a new thing to me. Consequently, I felt justified in injecting it subcutaneously at first, followed by the intravenous injection, as suggested by Dr. Schafer, following which there was no local reaction. In each instance the needle was introduced into the same vein in practically the same place without any difficulty. I gave three subcutaneous injections and did not get one-tenth of the result that I did with six intravenous injections, making a total of nine injections. I believe that the intravenous injections would have accomplished almost as much without the primary subcutaneous injections. As stated in the report, I think the intravenous injection is the method *par excellence*.

TUBERCULOSIS OF BLADDER.

(REPORT OF CASE).

By HERBERT BRONNER, Louisville.

Patient, C. A. W., age 30; white; married.

FAMILY HISTORY.

Father dead, cause of death, tuberculosis of bowel. Mother living and now in good health, although at the age of thirty she had tuberculous cervical adenitis, for which she was operated. One sister died of pulmonary tuberculosis. Two sisters and one brother living and in good health, one of these sisters having had a tuberculosis of the knee-joint.

PERSONAL HISTORY.

Patient has had measles, whooping cough, mumps, pneumonia twenty years ago; typhoid nine years ago. In August, 1910, patient had first symptom in genito-urinary tract, which consisted of swelling and pain in the left epididymis; one and a half months later, similar symptoms in right epididymis. About the same time, an abscess of the left epididymis was opened and curetted. This wound never healed. Two weeks later an abscess on right side was opened and curetted, and this wound never healed.

In January, 1911, patient came under the observation of Dr. Abell, who found immediate operation necessary. The operation consisted of an epididymectomy on the left side.

and a complete castration with high division of the vas on the right side. The wound on the left side healed completely; that on the right side completely except for a small sinus along the cord. In the latter part of December, 1910, patient first noted bladder symptoms. This consisted of frequency of urination, thus bearing out the statement of Mr. Fenwick that the "hall-mark" of vesical tuberculosis is vesical irritability. Pain, which occurred previous to urination, began in January, 1911. It has been our observation, in vesical tuberculosis, that the pain frequently occurs before urination, rather than during or at the end of urination. Patient first noted haematuria in May, 1911. Frequency and pain became progressively worse, and the patient went to North Carolina in February, 1911, and was put on the tuberculin treatment. This treatment was continued until July 6th, 1911, when the temperature became so high that it was deemed advisable to abandon this method of treatment. Temperature at this time was 103 degrees F. He was then treated for malaria, to no avail. The patient came to Louisville on September 20th, 1911, and was seen by Dr. Abell, who kindly referred the case to me. The condition which we found on this date was as follows.

Patient was having repeated chills; afternoon temperature 104 degrees; he was voiding every fifteen minutes, with considerable pain; he was having severe night-sweats. He was very pale and emaciated and weighed only 130 pounds. The wound along the cord had not healed.

Examination of the urine showed enormous amount of pus, tubercle bacilli, colon bacilli-staphylococci and streptococci.

Examination per rectum showed a very nodular prostate, and slight involvement of the seminal vesicles. This was plainly a case of ascending tuberculosis of the bladder, accompanied by a profound mixed infection.

We did not use the cystoscope in this case, because we felt that the diagnosis was clear, and that instrumentation in a case of this kind, where the prostate was decidedly involved, and where a very irritable bladder existed, would only result in harm.

The patient still believed that his symptoms were due largely to malaria, but we assured him that the mixed infection was largely responsible for his symptoms, and proposed the use of an autogenous vaccine with a view of immunizing him against the infection. To this he readily consented.

The patient began to live out in the open air on a porch a few days after his arrival here, and has done so up to the present time.

The use of the autogenous vaccine, which was made by Dr. Allen, was instituted in the latter part of September, and has been con-

tinued for six months. There was a very decided reaction after the first few doses, so that we found it necessary to lengthen the interval and reduce the dosage of the vaccine in order to avoid too long a negative phase. After these first few doses, however, the negative phase, while decisive in character, was never longer than 24 to 36 hours, and was always followed by a good positive phase. The patient's temperature dropped steadily under this treatment, and reached normal by the end of December.

PRESENT CONDITION.

Temperature normal during the entire 24 hours. Weight, 179 pounds, a gain of 49 pounds. Patient looks hardy and rosy and rugged. He urinates every three hours in the day-time and every two hours at night. The urine has cleared up considerably, although still showing some pus.

The sinus along the cord healed up in October, 1911, four weeks after beginning the use of the vaccine.

Our reason for reporting this case is to show, somewhat, the possibilities of treatment in a class of cases which have heretofore offered but little. Our further plan of treatment will be to continue the use of vaccine and to begin the careful use of tuberculin. We will be glad to report further in this case.

DISCUSSION.

Irvin Abell: As Dr. Bronner has stated, I operated upon this man, after which he passed from my observation, going to North Carolina. I had several letters from him and one from the doctor in the case, who reported vesical hemorrhage.

This case speaks remarkably well for the use of the vaccine, as evidenced by the tremendous improvement the man has made.

In addition to the good influence of the vaccine, I would like to call attention to what should be done, I believe, in young men who are the subjects of tuberculous epididymitis. We know that this occurs most frequently during the period of actual sexual life—say between the ages of 15 and 35. Frequently, the disease extends up the vas, involves the prostate, and extends down the opposite vas, so that when there is involvement of one side, it is usually only a few months until the same condition exists in the other side, necessitating complete castration and consequent deprivation of the sexual power, which is very undesirable. In this case, removal of the epididymitis, leaving nothing but the body of the testicle, with removal of a portion of the spermatic cord preserved the sexual ability. The testicle at this time seems to be perfectly healthy, and at the time he presented himself in this city, in September, seven months after he was operated upon (at which time I was out of town and Dr. Bronner took charge of the

case), he had no evidence of any disease in the left inguinal canal. I think Dr. Bronner is to be congratulated upon his scientific handling of the case; the results speak eloquently for it.

Ellis S. Allen: I did not see this gentleman before he was operated upon, but I saw him last summer when I made a blood analysis for Dr. Abell to determine whether or not he had malaria. The improvement that has taken place in this man is marvelous, and I have seen other cases of bladder infection and infections of the urinary tract, in which remarkable improvement followed the use of autogenous vaccines.

I believe that where we get our best results from vaccines is in those conditions where the vitality of the patient has become so lowered that their fighting forces, so to speak, are unable to destroy enough bacteria to liberate the endogenous toxins in sufficient quantity to generate immunity, in which event we have to inject into the patient bacteria that have been killed for him, or the chemical capsule destroyed and the intracellular toxin liberated, which stimulates the enzymes of the cells and brings up the immunizing powers of the tissues. I had a case not long ago in which the appendix and about an inch of the cecum were gangrenous. I closed the cecal openings as well as possible, expecting, of course, a fecal fistula. Anticipating a terrific amount of infection, I at once instituted vaccine treatment. To our surprise (and we attributed it to the vaccine) very little pus developed in the wound; there was no discharge, no fecal fistula, and the patient made a rapid recovery.

A month or two ago a young man came under my care with a terrific cystitis. Cystoscopic examination showed numerous large ulcers in the bladder. Tuberculosis was suspected and numerous microscopical examinations were made for tubercle bacilli, without results. However, the urine showed the presence of a mixed infection, staphylococci, streptococci and colon bacilli being found in it. An autogenous vaccine was made and I have been using it on him now for about two months. Previous to this I did a perineal section and drained the bladder, but he still had frequent urination and a great deal of pain, and I therefore resorted to autogenous vaccine. He is just about ready to go home now with the fistulous tract closed.

I know of no class of cases in which vaccine treatment does so much good as in chronic infections of the genito-urinary tract. I have in mind a physician of this city who, for some time, had a tuberculous kidney with a colon infection engrafted on it. After several months' treatment with tuberculin we were no longer able to demonstrate the tubercle bacilli in the urine, but it swarmed with colon bacilli and contained a great deal of pus. An autogenous vaccine was made and administered and in two or three months the urine cleared up entirely. I would certainly advocate vaccine treatment in chronic infections,

and we are now beginning to get almost as marvelous results in acute infections.

W. C. Dugan: I think Dr. Bronner is to be congratulated upon the result obtained in this case, and that the society is to be congratulated upon having the opportunity to see such a result.

I have seen two cases in which double castration was done. One of these patients first had a chronic sinus. Just as Dr. Abell stated, the second testicle frequently becomes involved, and in this case the patient developed an acute miliary tuberculosis of the other testicle, with all the symptoms of a general tuberculosis, night-sweats, temperature, etc. It was necessary to do a second castration, the first testicle having been removed six months previously. This man also has vesical symptoms, painful and frequent urination, etc. As Dr. Bronner has well stated, in tuberculous conditions of the bladder, the pain often precedes urination. This man had the most violent vesical symptoms. The prostate was very much enlarged and it was thought at one time that it would be necessary to do a prostatectomy, but his vesical symptoms gradually disappeared and the enlarged prostate subsided. A number of years later when I examined him, it was just a mass of hard, calcareous material. He told me that he still had the sexual desire.

I recall another case, very much like the first one, except that this man had a double traumatic tuberculosis, following an injury to his testicles sustained in a runaway accident. The diagnosis was verified by microscopical examination. The man became emaciated until he hardly cast a shadow. We did a double castration, removing both testicles well down toward the bladder. He had vesicle symptoms, the prostate was involved, and he weighed at that time only a little over a hundred pounds. His physician told me recently that his weight is now about 60 pounds, his vesicle symptoms have been entirely relieved, and he has retained his sexual power.

Herbert Bronner: I will say that, so far, this patient has had no diminution of his sexual ability.

DISSEMINATED SCLEROSIS.

By F. C. ASKENSTEDT, Louisville.

Disseminated sclerosis is, according to Oppenheim, of all chronic organic diseases of the central nervous system, the most common. As compared with all other maladies of the nervous system it is, however, relatively rare. Investigating 70,000 neurological cases in America, Bunker found it in only 0.58 per cent. The symptoms of disseminated or multiple sclerosis are due to the presence of plaques or indurations in the brain and spinal cord, most frequently in the pons, the internal capsule, the centrum ovale of the brain, and in the lateral tracts of the cord. These plaques are formed by a degeneration of the

myelin substance of the neurons and a proliferation of the neuroglia and surrounding connective tissue, the axis cylinders, proving more resistant to the destructive process, are often seen to pass through the new formed tissue. This explains the transient appearance of symptoms noticed more especially in the early stage, and the evident irritation and paresis.

The recognition of the disease at this time is not always easy, hysteria, brain tumors, dementia, syphilis, cerebellar atrophy, multiple encephalo-malacia, often having been mistaken for the disease. Oppenheim mentions spastic spinal paralysis, nystagmus, slowness of speech, attacks of vertigo, and forced laughter as early symptoms of disseminated sclerosis.

Thirty per cent. commence with optic atrophy. Strumpell and Muller have called attention to the disappearance of abdominal and cremasteric reflexes as an early sign. Daux speaks of short hemiplegic and paraplegic attacks, with sensory disturbances occurring during its incipency.

The remarkable remissions of symptoms and sometimes of apparent recovery during its advent should put us on guard against diagnostic and prognostic errors, although a few cases have been known to make permanent recovery.

The patient I bring before you this evening presents no new or unusual feature. He is of interest to those only who are not quite familiar with the symptom complex and course of the disease.

The patient was first seen October 18, of last year, and the following history is taken from my records of the above date:

Aged 34, height 6.1 ft., weight 150 lbs. During the last few years has been employed in the refrigerating rooms of a large hotel. Family history shows no organic nervous trouble.

PREVIOUS HEALTH.

In early life patient was in poor health—"sickly" as he states it. Had measles, whooping cough, and cerebro-spinal meningitis (?) as a child. Has been a "rheumatic" all his life. At 15 had St. Vitus dance. In 1909, weighed 160 pounds, his heaviest weight.

PRESENT ILLNESS.

Last January he began to notice that he could not write well with the left hand. A little later he suffered sharp and dull pains through the body, mostly through the shoulders. Then the left leg began to stiffen, after this the right. During the last 4 or 5 months he has had pains, off and on, in left lumbar region. His hearing has been growing worse the last two or three years. Speech

is thick and rather difficult. Is subject to occipital headaches, sometimes extending to forehead, worse in the evening, but relieved by anodynes. These headaches have been growing less frequent and now seldom return. Occasional attack of vertigo, but not to the extent of falling. Memory is failing. He sleeps well, has a good appetite and a fair digestion. Bowels somewhat constipated. There is no twitching of the muscles, but the right arm has spells of shaking, and at times the whole right side becomes tremulous. Since April he sometimes staggers when walking, with tendency to fall to the right. There are fleeting pains in head, right index finger and feet. The sphincters functionate normally.

PHYSICAL EXAMINATION.

Pupils respond to light and accommodation. No tremor in hands on extension of arms, but a large tremor can be noticed at times on voluntary motion ("intention tremor"); none in right leg. Coordination of arms normal. Grip of hands firm. Sense of touch normal in both arms. Romberg sign absent or feebly present. Nystagmus of both eyes or turning them in or out (quick movement away from center, slow returning). Epigastric, right abdominal and cremasteric reflexes abolished, left abdominal present. Scapular reflexes absent. Triceps reflex feeble, but more marked on right than on left side. Patellar reflexes exaggerated. Achilles reflexes normal. Hearing of left ear fair; can hear watch tick thirteen inches from ear; failed to hear the watch when applied to the right, but heard it when applied to right temporal bone. Temperature at 11 a. m., 98.5; respiration 17; pulse 69, sitting; systolic tension 128; diastolic 100; pulse 70, lying. Condyloid gland of right arm barely palpable; of left arm not felt. Through the courtesy of Dr. J. J. Wynn, who examined the patient's eyes and ears, I am enabled to add the following symptoms:

Date, November 16, 1911. Marked nystagmus of both eyes. Worse on looking upward and to sides. Vision of both eyes reduced. Right eye 15-70; left eye 15-100. Pupils react both to light and accommodation. Visual field concentrically contracted in both eyes. Fundus apparently normal. Possibly some slight pallor of disc. No evidence of external eye disease.

Ears. Tinnitus aurium and deafness, worse in right ear; no previous history of pain or discharge. Examination revealed membranum tympani of each ear slightly retracted. In left ear hears watch at a distance of three feet. Rinne test positive. Weber test referred to left. In right ear, Rinne test is negative; hears spoken voice three feet, but

fails to hear watch or whisper. Some post-natal catarrh accounting for retracted tympani and for some deafness, especially on the left side.

No physical examination has been made since the above records were taken, and the patient is brought here this evening that you may yourselves ascertain his present physical condition.

DISCUSSION.

Curran Pope: In the consideration of disseminated or multiple sclerosis, the first question that one has to settle definitely is that of symptomatology. It might be said that disseminated sclerosis is, in this respect, **regularly irregular**; that is to say, cases do not present a regular sequence of symptoms, simply because the different plaques of sclerosis are located at different points in the course of the central nervous system, and for that reason we are likely to have irregularity in the symptomatology. It has always seemed to me that the essential point in these cases is to first eliminate the question of other diseases of the nervous system, notably those cases in which the cord is the first to become involved. Of course, I cannot stop except for a moment, to speak of the classical symptoms of the disease; those who are at all familiar with disseminated sclerosis know what they are.

The pathology is not at all settled. As to what is the causative factor in this condition, I cannot find any two authorities that agree. Most of them seem to believe that it usually follows an infection of some kind, but when it comes to stating what kind of an infection, none of them venture to make an assertion. Others say that there is degeneration of the myelin, while some have advanced the theory that it is possibly due to the short-circuiting of the nerve current on account of the absence of myelin.

I have seen quite a number of cases of disseminated sclerosis. The first experience I ever had with it was in 35 or 40 cases seen in Charcot's clinic at the Salpêtrière, all of them exhibiting more or less classical symptoms, with numerous variations. Those of you who know of Charcot's method of teaching, recall perhaps, that it was his practice to take a group of "classical cases" as he called them, and then have, to one side or another, several groups showing deviations from what he termed the classical group, and in this way one could obtain a most excellent idea of the variations from the classical, if it may be so called. Only those of you who have seen the line-up on the noted Thursday mornings can realize the vast advantages that arise from such a method of teaching clinical neurology.

I noticed that the doctor was exceedingly quiet in regard to therapy; he did not even mention any therapy for this trouble. Personally, I have seen remissions occur. Why, I do not know. I have at times attributed it to one thing and then

another. I have believed, however, that building up the patient's general health has done more good than any other one thing. At one time I was inclined to believe that harnum chloride had an effect upon this trouble in the way of restraining its activity, but I have had that idea shattered on several occasions, and I have given it up. One drug that I have seen do good temporarily is tincture of hyoscyamus, in small doses, given at reasonably short intervals, three to five drops every two or three hours until a certain amount of sedation is produced, and then lengthen the interval. I am not averse to hyoscyamus but I am against hyoscyne. The tincture of hyoscyamus, supplemented by tonics, and particularly by physical remedies, does good. These people are benefitted by massage and by resistive exercises, particularly exercises that have hyperextension and hyperflexion for their object. They seem to act a good deal like they do in Parkinson's disease, paralysis agitans, and I have learned to depend a good deal upon these measures in disseminated sclerosis, especially since I have found no drug remedies of any value whatever save for intercurrent afflictions that may come to these people, just as they come to one in normal condition. Eventually, unless carried off by some intercurrent malady, these patients will pass along to the terminal stage of the disease.

At Rosenthal's clinic, in Vienna, and with Gower, in London, I saw quite a number of these cases, and the specimens I exhibit here to-night were taken from a case that chanced in the clinic there, was followed for several weeks, and died suddenly from an intercurrent malady. They show the varying locations of the disseminated plaques in the central nervous system, brain, cord, etc.

David C. Morton: The interesting feature of disseminated sclerosis, it seems to me, is the peculiar selection of the area involved, and in view of that selection it is argued by some that an infection of some sort—perhaps a yet unknown infection—is at the bottom of it. As Dr. Pope has just said, the infection seems to be in the myelin, with impairment, for a certain time, of the axis cylinder. To begin with, it is a degenerative process, with substitution for the myelin of newly formed tissue.

This man claims to have had a very severe attack of rheumatism a few months prior to the onset of this disease, and to that extent this individual case is rather confirmatory than otherwise of the theory of an infectious disease preceding the onset of the symptoms. He is 34 years old, being in the fourth decennium, which is, according to some statistics, the most selective age of the disease.

Making the diagnosis purely and simply on the symptoms as given, and the signs as elicited, is a very difficult matter, on account of the lack of type of the disease. I think, however,

that the evidence is all in favor of a correct diagnosis having been made in this case.

As to therapy, medicinal agents, apparently, to some extent, give relief. The history of these cases is that they last from five to twenty-five years, with an average of five to fifteen years, nearly all being carried off by some intercurrent affection. Remissions are prone to occur. We often think that we have gotten results from some particular form of therapy, and credit our therapy, and perhaps our ingenuity, with the result obtained, overlooking the fact that multiple sclerosis, when left alone, is characterized by most wonderful remissions. Therefore, we had better think twice, or three times, and then be very careful how we place our faith in this or that measure.

The case is very interesting, and it will be much more interesting to see it later on, possibly in one of these remissions. Some men assert that a mixed treatment of iodid and mercury seems to bring about some improvement, but their observations have been made only in those cases in which remissions may or may not have occurred without therapy. The therapy of this condition is practically nil, so far as I have been able to learn from the records of men who have had a great deal of experience with it.

John J. Moren: I have been impressed by one particular thing in connection with this very interesting disease; that is, its infrequency in this section of the country. It is one of the most frequent of the nervous diseases in foreign countries, but here, at least in this section of the country, we see very little of it. Some time ago Sanger-Brown wrote an article on this subject in which he stated that many cases of multiple sclerosis went undiagnosed. After we have seen a number of cases of this kind, I might think there is something in that statement, but when we watch the development of many of these cases, we find that they do not develop into the typical cases of multiple sclerosis, such as are seen in Eastern clinics. The majority of cases that I have seen in this vicinity have been in persons of foreign descent.

I had a very interesting case at the clinic in the City Hospital, which resembled this one very much, except that the symptoms were limited to one side, and the question came up as to whether or not it was disseminated sclerosis, which, at the first examination, we were unable to decide.

About a week ago Dr. Bronner asked me to see a patient at the City Hospital, who had been admitted for retention of urine. Under the ordinary treatment, which the doctor administered, the retention was relieved, and he was able to pass his urine very nicely. However, he had a distinct ataxic gait; he gave a history of sunstroke about 17 years ago, followed by epilepsy from which he is still suffering. About five years ago he was injured in a street-car accident, and since that time he has been suffering with this

ataxic gait. He had markedly exaggerated knee-jerk, but the ankle reflexes were normal, Babinski's sign was not present, nor were any of the other reflexes exaggerated. On the second day when I went in to see him, I took him into a private room to examine him, and he said: "Doctor, if it will help you any, look at this sore," and he showed me one of the nastiest looking places I have seen in a long time. He had evidently had a fistula there for fifteen years. Now, this might explain the knee-jerk; it might explain, to some extent, his attacks of retention from time to time; in fact, it might explain many of the symptoms resembling multiple sclerosis. Unfortunately, he left the hospital, and I have not been able to see any more of him.

A. L. C. Perceful: I would like to ask Dr. Askenstedt whether, in his opinion, the periodical or continued use of alcoholics would have any bearing upon the cause of this condition?

F. C. Askenstedt, (Closing): I wish particularly to thank Dr. Pope for presenting these specimens; they have been valuable in illustrating the pathology of this disease.

Reference has been made to the cause of disseminated sclerosis, and Dr. Pope mentioned the theory that infectious diseases are frequently the cause. In this case, however, I cannot trace it to an infection. The patient said he was rheumatic, but you all know what people call rheumatism. Some years ago I had a case that had been diagnosed "rheumatism" by some physician. This was in a colored woman, and it was a typical case of disseminated sclerosis. The pains shifting from place to place give rise to the suspicion of rheumatism. I cannot trace it to any particular disease. He has been a very moderate user of alcohol. Syphilis is not considered a cause. At any rate, this man denies a specific history and I have not found any evidence of it upon physical examination. The only thing that might be considered a causative factor in this case is exposure to cold and dampness. I mentioned in the report that he has been employed in the refrigerating rooms of a large hotel for years, and previous to that he had a restaurant of his own for a number of years. Oppenheimer mentions chilling of the surface in connection with violent emotions, such as is produced by running out on the street from a fire, as a possible cause, and possibly that is the explanation of the trouble in this case, but of course, there must always be an hereditary predisposition to this disorder for any immediate cause to be operative.

I was very cautious in making the diagnosis in this case, simply because I could not get tremor. At times it would seem to be present and at other times absent, and apparently was confined to the right arm. I also stated that his trouble was confined to the right side, and I thought possibly he might have a syphilitic lesion. A cerebellar lesion is supposed to produce nearly all of these symptoms. In cerebellar atrophy we have

ataxia, vertigo, occasional unintentional tremor, eye symptoms, and a few cases are reported that were supposed to have developed increased reflexes. Multiple encephalomalacia also presents a symptomatology almost identical, at times, with that of disseminated sclerosis. Here the pathology is softening of the brain through thrombi forming in the arteries, causing infarcts and consequent softening, so that we have plaques of degeneration instead of induration, and of course, the symptomatology would be very similar, depending upon the parts involved.

As Dr. Moren has stated, the disease is known to be more frequent in Europe than in America; the difference, however, is not so very great—perhaps twice as many in Europe as here. Also, it is more frequent in the East than in the Central States.

I said nothing about treatment in the report, but I will tell you what I gave this man. I administered homeopathic remedies. Mercury and sulphur were the chief drugs used. He says he is stronger and feels better, but I have not made a physical examination since last October, and I do not know whether there has been any improvement or not. Furthermore, I cannot say that any improvement that may have occurred is due to the treatment he has received, because we know that all of these cases show remarkable remissions at times. Therefore, I am not able to offer any opinion as to the value of the treatment in these cases.

HAEMOPHILIA; REPORT OF CASE.

By H. A. DAVIDSON, Louisville,

Dora Adams, white, age 16, a ward of the Kentucky Children's Home Society, came originally from Clay County, Kentucky.

FAMILY HISTORY.

Father living, whereabouts unknown. He is not supposed to be a bleeder. Mother dead, age 45. Cause of death unknown. She was not a bleeder as far as the patient knows. Patient's grandmother, on her mother's side, was a bleeder and died as the result of hemorrhage. Aunt, on mother's side, was also a bleeder and died of hemorrhage; also a cousin on her mother's side, a girl, was a bleeder and died of hemorrhage.

PERSONAL HISTORY.

She had measles and chicken-pox in childhood. Two years ago she had her first hemorrhage from the ears, since then has had bleeding from the eyes, nose, mouth and from cuts, frequently. Three years ago she had her first menses. Her menstrual periods are somewhat irregular, 6 and 7 weeks apart; flow lasts two days, is scanty. Hemorrhage from the other parts of the body are usually worse before menses appear. She had tonsillitis last sum-

mer and bled profusely from her tonsils. She had lobar pneumonia, in the right upper lobe, about three weeks ago. No rheumatic history. She expectorated, freely, prune juice sputum, she also bled from her nose once during the attack. She was given one c. c. pneumococcus vaccine and had her crisis within 36 hours after the injection, it being between the fifth and sixth day of the pneumonia. At various times during the last year she has had attacks of nausea and vomiting. Her heart is irregular. It is enlarged to the right. Pulse rate this morning was 42, temperature normal. She is nervous, irritable and worries a great deal about her condition. At various times she has had calcium chloride in full doses, also calcium lactate in full doses for a long period, also syrup iodide of iron, but these seem to have no effect upon her hemorrhages. On March 4, 1912, I injected 15 c.c. sterile horse serum. She bled for about two days from the point of injection of the serum, there being a constant slight oozing; since that time her hemorrhages have not been so frequent.

URINE ANALYSIS.

Sp. gr. 1020, reaction acid, no albumen, no sugar. Her bowels regular, sleeps well, appetite good, in other ways seems to be in good health.

Through the kindness of Dr. E. S. Allen, of the Louisville Research Laboratory, I am able to submit the blood examination, which is as follows:

Haemoglobin 70 per cent.; Red cells in cu. mm. 4,800,000; white cells 9,800; erythrocytes pale; erythroblasts, few; mononuclears, 26; transitionals, 2; neutrophils, 68; eosinophiles, 4; basophiles, 2; blood platelets, numerous; parasites, bacteria, none.

Clotting time—3 minutes 6 seconds; after extracting several drops there was an entire failure to clot.

Haemophilia has been termed by Grandier the most hereditary of the hereditary diseases. Many theories as to the cause of haemophilia have been brought forth. That of Sahli is probably more in accord with the facts. He believes that haemophilia is due to a chemical alteration in the walls of the blood vessels, and is a disturbance of their functions and not of their morphology. Morowitz has shown that fibrin ferment is formed by the union of thrombogen and thrombokinase in the presence of calcium. In haemophilia the secretion of the vessel wall is entirely inhibited or reduced to a minimum, hence clotting in the mouths of the cut vessels does not occur, as that depends chiefly upon the function of the wall of the blood vessel in pouring out thrombokinase. A case of haemophilia is of importance when considered from the standpoint of Eugenics. No bleeder, especially fe-

male bleeder, should ever be allowed to marry, because it is almost certain to reappear in her offspring.

DISCUSSION:

M. L. Ravitch: I have seen two cases very similar to the one reported by Dr. Davidson. One was a Sister at the Sacred Heart Academy, who developed an eczematous condition of the extremities. This was a case of Dr. O'Connor's. External treatment was applied to the patches without any results. They began to bleed and this aroused his suspicion and he referred the case to me. I treated her for a while and she went from bad to worse. She developed rough erythematous and eczematous patches all over the feet, which bled profusely. Then her eyes became affected and she also had bleeding from the ear. Then she had mouth symptoms, and later developed a condition of the throat that looked just like diphtheritic patches. Her temperature was about 104, and she was given up to die. A very severe pain developed in the intestine, and for a while it looked as if she had appendicitis. Dr. Abell was asked to see the case if it was an operable one, but because she was an haemophilic he did not operate, and we were at a loss what to do. Finally we gave her an injection of 5,000 units of horse serum. Her temperature went down and she improved rapidly, but we would not give her a second injection for fear of anaphylaxis, because all of these patients, particularly those that have purpura, have a peculiar tendency to anaphylaxis and very serious symptoms are liable to result from a second injection. I have had two experiences along this line and I do not want any more. Moreover, a second dose is apt to produce a choking sensation, and may suffocate the patient.

Calcium lactate, if it is given, should be administered in not less than 25 grains at a dose. To my mind a solution of adrenalin, with unguentum and bicarbonate of soda is far superior to calcium lactate.

Ben Carlos Frazier: I had very unique experience, two or three years ago, that I think is worth while to report. I delivered a primipara, after a long tedious labor, of a well developed 9 pound male child, but with quite a large caput. As is my custom, I did not pay much attention to it for a few days, but it seemed to grow larger and was noticed to fluctuate. Therefore, I concluded to open it, which I did and drained off quite a little fluid. A compress was applied and I left. I had not been gone long until the nurse called me back, saying that the child was bleeding profusely. Fortunately, an unusually intelligent nurse was in attendance, and when I got there I found that she had taken off the bandage, placed her finger on the incision and controlled the hemorrhage entirely. Then I began to make inquiries, and learned that this child's grandmother had twice come near bleeding to

death, and that two uncles of the mother had died of nose-bleed.

I am sure that I will never open another caput without first inquiring into the family history.

Henry E. Tuley: I have had no experience in cases of this kind, but I would refer Dr. Davidson to two articles in the March number of the American Journal of Obstetrics and Diseases of Women, relative to the use of human blood serum in melena neonatorum and in cases of haemophilia. In these cases repeated injections of human serum were given, even to infants, with remarkable results.

H. A. Davidson, (Closing): There is one interesting feature of this case that I neglected to mention in the report. When the bleeding from this girl's eyes was first noticed, she was sent to Dr. Lederman, who does the eye, ear, nose and throat work for the Home, and he did not seem to think that such a thing was possible. It seemed that she could have a hemorrhage at almost any time before the serum was given. She had a hemorrhage while in Dr. Lederman's office, and he examined her eyes but could not tell where the blood was coming from. It seemed to come from the conjunctiva, but he could not say just where. He mentioned it to Dr. Ray, who also saw the hemorrhage and could not tell where it came from. I thought possibly at times she would rub her eyes and irritate them, but she denied doing so and said that they just began oozing. At any time she became a little excited, or exercised vigorously, she could start a hemorrhage from the eye, ear, nose or throat.

SEVERE CHOREA IN A CHILD UNDER FOUR YEARS OF AGE; REPORT OF CASE WITH EXHIBITION OF PATIENT.

By D. Y. KEITH, Louisville.

Master A. M., age three years ten months. Admitted to the Children's Free Hospital March 22, 1912, with the following history: Mother living in good health, father living, physical condition good, except some impairment of eyes. One sister living, nine years of age, health good. Has four brothers or sisters dead, causes indefinite; all died under two years of age, one under six months old. They were older than living sister. No history of any miscarriages or of a specific history in mother. No chorea or neurosis on either side of family-tree.

PAST HISTORY.

Has had none of the diseases of childhood, always very healthy.

PRESENT HISTORY.

Four or five weeks ago began with involuntary twitchings of the upper extremities grad-

nally increasing in severity until at the present time they are practically continuous. Three weeks ago leg became involved, first showing as a clumsy gait then staggering as if drunk; now he is unable to stand or walk. Bed covering had to be pinned together to keep little patient covered as well as to keep him from falling out of bed on account of the severe involuntary purposeless movements.

Physical examination revealed a well nourished boy, a distinct blonde. Purposeless movements involved muscles of entire body except the face. Muscles of respiration were involved though there was no crowing as is sometimes seen when larynx is involved.

Visible mucous membrane anemic; mouth and tongue very foul, sordes on lips and tongue, discharging right middle ear.

Patient would answer "yes" or "no" to questions but mentality seemed duller; all voluntary acts were very much delayed. Mucous membrane of prepuce tightly adherent to glans penis, which I was unable to correct completely.

Marked infection around the prepuce and glans penis.

Chest examination negative except few large rales in tracheae and large bronchi. No abnormal sounds were detected on heart examination.

TREATMENT.

Rest in bed under good hygienic surroundings, select diet, repeated cleansing of mouth, middle ear and penis.

Medical treatment consisted of Fowler's solution in increasing doses, hexamethylenamine for middle ear, laxatives and few small doses of morphine to obtain a little rest.

REMARKS.

The only attributable cause that I could ascertain was that during Xmas and many times afterwards patient was scared by a false-face of Santa Claus. Also the marked adhesions of prepuce to glans penis as a reflex cause. Patient gave history of "bed wetting" which has been relieved during stay at the hospital.

I attribute the rapid improvement as seen here to-night to the good nursing, being taken away from home surroundings, absolute rest, overcoming the infection around penis in connection with the large doses of Fowler's solution, minus eight being given at a dose for a few days.

DISCUSSION.

Jethra Hancock: I saw this child with Dr. Keith, and it struck me as one of the most interesting cases I have ever seen. The helplessness of the child was exceedingly pitiable. He could not maintain his head in an erect position

without assistance; all of his muscles were apparently relaxed. He gave one the impression of a chicken with "limber-neck." At that time it seemed to me that he had some acute infection, but it was very indefinite. I saw him again two days ago, and the improvement he has made since I first saw him is indeed surprising; it has been even more radical than Dr. Keith's report would lead us to believe. If medication has brought this about, it is certainly a triumph of therapeutics about which I have heretofore been very skeptical.

Carl Weidner, Sr.: This case is remarkable in that the child has made such rapid improvement. From Dr. Keith's description, the condition must have been very severe.

I have under observation a child a few years older than this one. We do see it in children; we see a good many children with choreiform conditions due to various reflex disturbances—possibly from the eye, the ear, or the nose. I think the eye men could tell us something about these cases. In this child, however, the condition seems to belong to the group classified as chorea major.

The doctor did not say anything about a history of rheumatism. We know that this condition is very often associated with, or follows, rheumatism. I could hear no murmur, or any abnormal sound about the child's heart.

Many years ago I saw a good many children with adherent prepuces, which undoubtedly gives rise to many reflex disturbances in children. I have seen choreic movements in these children, but whether they were due to the condition of the prepuce could not be determined. Most cases that I have seen have given a history of rheumatism.

I would sanction the treatment given by the doctor, which is recommended by most authorities; that is, full doses of Fowler's solution.

One important point in the treatment of this condition in older children is to keep them isolated and not allow them to associate with other children at school, etc., because the other children will imitate them, and not infrequently it will occur in those children. They imitate the movements, and sometimes they keep them up and, as a consequence, become choreic themselves.

Ben Carlos Frazier: I do not believe the arsenic helped this child. In my opinion, it was a reflex condition entirely due to the condition described by the doctor, the correction of which has brought about this wonderful improvement.

W. C. Dugan: Dr. Frazier has expressed my views exactly; the improvement in this child is due to correction of the penile condition. I remember the case of a child that had been circumcised, and the mucous membrane left which fitted over the end of the penis like a kid glove. When I was called to see this child, he had

chorea minor. While walking across the floor he would jump up on his toes and remain in that position. The mother thought the child was paralyzed. When I asked her to take off the child's clothes, she said, "Doctor, there is nothing wrong there; he has been circumcised." Nevertheless, I insisted upon examining his penis, and found the condition I have described, which was corrected and the child's chorea was entirely relieved.

I agree with Dr. Frazier that arsenic had nothing to do with the improvement in this case.

M. L. Ravitch: It has been a long time since I treated these affections, but I remember that arsenic seemed to help the condition very much.

Too much arsenic is given in these cases. Many cases of eczema have been caused by giving too much arsenic. The average practitioner gives arsenic without any caution. They should be very careful in its use because many skin troubles such as keratosis, and even cancer, have been caused by giving too much arsenic.

David C. Morton: Dr. Weidner brought out one point that is very essential in the treatment of these children. Whether it be arsenic, or rest, or education, or what-not, that brings about improvement, the best results are obtained by isolating the patient to a certain extent. I recall a case that I had, in a boy, twelve years of age, who had a chorea of the minor type, and had to be kept away from school practically all of the time. This boy's mother was constantly nagging at him, from morning to night; she scolded him for the most trivial things. He was sent on a camping trip with some other boys of the same age, and there was immediate improvement, which the mother attributed to the fresh-air, living out of doors, etc., which, of course, had a good deal to do with it, but in my own mind I attributed his improvement largely to freedom from the everlasting nagging that he got at home. This is a point that should not be forgotten in the treatment of the functional nervous troubles of childhood.

D. Y. Keith, (Closing): I wish to thank the gentlemen for their generous discussion of this case.

Just a word in regard to chorea major. Dana says that chorea major is a manifestation of hysteria, and he describes it under that head. He further says: "It is not a chorea at all."

I am sure that isolation has been worth a great deal in this case, as well as attention and rest.

In regard to the correction of the penis condition, nothing was done in an operative way. It was simply cleansed and the prepuce retracted daily until we got rid of the infection. He had marked adhesions around the prepuce and some of them are still there. The infection of the prepuce has been entirely relieved.

I have never been able to detect any irregularity of the heart. The text-books all speak of

choreic movements of the heart muscles, but I have listened to his heart with the stethoscope many times and have never been able to detect any such movements.

DELIRIUM TREMENS FROM PARALDEHYDE; REPORT OF CASE.

By MILTON BOARD, Louisville.

Paraldehyde is a polymeric form of ethylic aldehyde. It is a byproduct of alcohol or vinegar obtained by the action of an oxidizing agent like chromic acid. It is a colorless transparent liquid having a strong characteristic but not unpleasant or pungent odor and a burning and cooling taste. When cooled to 32 degrees F., it solidifies to a crystalline mass which becomes liquid again at 51 degrees F. It is miscible with alcohol, ether or oils.

Paraldehyde in doses of 1-2 to 1-2 teaspoonful is a hypnotic having an effect very similar to chloral for which it was offered as a safe substitute. It will not relieve pain but is irritating to the mucous membrane and impairs digestion.

Large doses are attended with great prostration, low muttering delirium and death may occur from paralysis of the respiratory center. Its prolonged use, according to Dr. J. G. Kearnan, is followed by nasal ulcers, skin eruptions and other evidence of impaired nutrition. Very few cases of the paraldehyde habit have been reported though Kraft-Ebing has called attention to the habit and Crothers mentions it in his work on narcomania. In my experience of more than 8 years in special practice I have had but one patient addicted to this drug whose case I report as follows. Patient, J. H. L., age 35, single, occupation a country school teacher. Was admitted to my institution on July 19th, 1911. Patient came in drunken from the effects of paraldehyde, had fallen on the street and presented the general appearance of an acute alcoholic though he had taken no whiskey. He gave the following history:

Some three years before he had consulted a physician for some nervous trouble with insomnia and was given a prescription of paraldehyde with some liquid preparation of pepsin, this he continued to have refilled and to take in increasing doses and more frequent intervals until he became a paraldehyde drunkard.

Patient was emaciated, highly nervous, and showed the general effects of persistent poisoning. I withdrew the paraldehyde at once and gave patient strychnine hypodermatically and trional and sulphonal at night. Violent delirium ensued with the appearance of animals coming on within a day or two and lasting ten days. During this time patient was given hot baths frequently, sedatives be-

ing used very moderately. Patient was supported with strychnine and systematic feeding. When the delirium subsided a course of iron tonics with cod liver oil was given.

Patient went home at the end of a month, eating well and sleeping naturally.

I report this case because it is rare, and to emphasize what I have often said before, that a safe, reliable hypnotic, which is not habit forming, is the dream of the empirist and the boast of the manufacturing chemist, but in reality does not exist. The great majority of people who become addicted to drugs or alcohol remain so throughout life notwithstanding the numerous "cures" to which they are subjected. Here, as elsewhere, our greatest work is in prevention, and as physicians we should be careful, especially in dealing with neurotics in prescribing an anodyne or hypnotic.

CHOLESTEATOMATA OF THE EAR.

By W. T. BRUNER, Louisville.

The term cholesteatomata is applied generally to a collection of epithelial cells, round or polygonal, arranged in concentric layers and mixed with fat-globules and crystals of cholesterol. Sometimes the whole mass is covered by a pearly, shining membrane.

There is a great difference of opinion among pathologists as to the origin of these masses, some maintaining that a cholesteatomata in the temporal bone is of heteroplastic formation while others consider it to be a retentive tumor. Still others believe these scales to be formed in the external meatus and to extend through a perforation of the drum into the middle ear, and antrum. The mastoid cells seem to be the most frequent seat of the disease. In some cases the cholesteatomata is of small size while in others it is very large, leading to more or less destruction of bone from pressure and absorption, or there may be extensive caries. The middle ear, antrum and mastoid are sometimes transformed into one large cavity.

I report this case for two reasons. First, because there has been a dearth of ear cases reported to this society of late, and second, because the case itself possesses one or two points of unusual interest.

In an extremely limited number of instances this disease has been known to originate primarily, but in the very large majority of cases it occurs as a complicating feature of prolonged suppurative disease of the middle ear and its accessory cavities. This case is one of those rare cases originating independently of any suppurative condition of the middle ear or mastoid as far as can be elicited.

Mrs. H., age 35, white, married. Now in the seventh month of pregnancy. Family

history and personal history negative. I was called by the attending physician on March 16, he having treated her since about the first of March for a furuncle of the ear. I found her suffering excruciating pains in the ear with the ear canal completely occluded by a swelling which looked very much like a furuncle. Examination revealed a tumor covered by a pearly, shining membrane. An operation was advised and accepted. On account of pregnancy existing the operation was performed with cocaine. A free incision was made through the pearly membrane and a great quantity of cheesy material evacuated. The tumor was found to extend as far back as the drum membrane, but the drum was intact. After removing all of the cheesy material the bony canal was found to be carious this was curetted and all of the necrotic bone removed. There has been some suppuration following the operation but it has now about cleared up.

The only plausible explanation, to my mind for the localization and confinement of this mass within the external canal is the probability that this patient had in infancy or early childhood a suppurative middle ear condition with perforation of the drum and as the cholesteatoma developed in the tympanum, it was thrown out into the external canal and there remained, and on account of the irritating qualities of this mixture of pus, epithelial cells and cholesterol, brought about an excessive production and desquamation of epithelial cells, and as the cholesteatomata increased in size the external canal gradually became filled with the accumulation and by pressure the bony walls began to soften and break down.

The drum membrane in this case has a cloudy and thickened appearance, and its markings are dim and uncertain.

DISCUSSION.

Adolph O. Fängst: This is quite an interesting case, and I think both the patient and the doctor are to be congratulated. It appears that this was a case of spontaneous operation, without the aid of a surgeon. This sometimes occurs in these cases. It seems that by pressure portions of the bone are cut away, with practically the same result that we secure by doing a radical operation. It is the best thing that could happen for the patient, not only liberating the cholesteatoma, but giving free subsequent drainage, thus obviating the danger of further trouble.

The subject of cholesteatoma has been discussed for years, and there is still quite a diversity of opinion as to the pathology and etiology of this condition. I have seen quite a few cases, and I believe there are two separate and distinct conditions that we call cholesteatoma of the ear. Both of these are characterized by a foul odor

from the canal, exacerbations of pain, some dullness on that side of the head, dizziness, etc. The condition that I have most frequently observed is that in which the middle ear itself, the tympanic cavity and the antrum fill up with masses of tissue, made up of flakes of pus, pus cells, and fibrinous material from foul pus that has been in there for some time and decomposed. The other variety is the one just mentioned by Dr. Bruner, where the epithelial cells are in concentric layers. He said the cells are round, but he meant that they are discs; they are flat, squamous cells, and not oval or round. These come either from the tympanic cavity or from the ear canal itself, and here is where a diversity of opinion exists. Some schools (that of Virchow for example) believe that cholesteatomata are simply desquamated epithelial cells from the skin of the ear canal, and do not form unless there has at some time been a perforation of the drum membrane, allowing these epithelial cells to invade the tympanic cavity. Others believe that they are endotheial in origin, such as are found in the soft parts elsewhere in the brain. Favoring the argument that they come from the skin, the fact is cited that we do not find this condition in the frontal sinus, for instance, which is lined with mucous membrane instead of skin. Still others believe that cholesteatomata arise in the tympanic cavity itself, and offer as an argument in favor of this theory, that we find cholesteatomata as a primary trouble, where there is no history of a discharging ear. In the case reported by Dr. Bruner, the history of a discharging ear is very vague, and some cases are cited where it was pretty certain that there had been no discharge from the ear, and still cholesteatomata were were found.

An interesting feature of this condition is its treatment. These cases are all serious, I think, because there are very few instances of spontaneous cure, such as occurred in Dr. Bruner's case. On the other hand, many of them are apt to be followed by serious results on account of the pressure. These flakes are sometimes as large as a pigeon's egg. They are of concentric formation, one layer of epithelial cells forming on top of another, just like an onion, and under the pressure the bone atrophies or rots, and large cavities are formed. The danger here lies in the possible erosion of a blood vessel, or the meninges, causing meningitis, or cutting into the sinuses, or even into the arteries. There is only one method of treatment, unless spontaneous cure takes place, and that is radical mastoid operation. If there is a large opening, so that we can keep the cavities cleaned out, there is no use in doing an operation, but where there is only a very small passage-way the cholesteatomata will reform, and while we are waiting for it to do that, more damage may occur. It is not a malignant growth in any sense of the word, but it will re-

cur unless there is a free opening and it is exposed to the atmosphere.

Ben Carlos Frazier: Are cholesteatomata frequently seen in children?

Adolph O. Pfingst: I do not know the exact percentages, but I think it is far more frequent in children than in adults.

B. C. Frazier: I have seen three or four cases of this kind in connection with mastoid operations, and the reason I asked Dr. Pfingst this question was because I have only seen or heard of one case in a child, and I was under the impression that it was quite rare in children. I remember hearing a case that Dr. Pfingst reported to the society, as well as one or two others, and I thought the condition always occurred in connection with mastoid diseases. I am glad to know that this is not always the case; that it may occur without mastoid involvement.

W. T. Bruner, (Closing): The particular point of interest in this case, to me, was the fact that I was unable to get a history of any ear trouble. I questioned the woman very closely, and she denied ever having had any ear trouble of any character. However, the history given by the average patient in regard to ear trouble cannot be relied upon, because many children have suppuration of the middle ear when they are too young to remember it; they apparently get well and never know that they had ear trouble. It is my opinion that this woman had middle ear disease when she was a very young child and does not remember it, and that this condition developed from it.

These growths will go along for years and years and never cause any trouble until the bony structures begin to break down, or until the ear canal becomes occluded, when the pressure will give rise to pain.

I was hoping that some one in the discussion of this case would give us a little more light upon the origin of this condition. I do not know much about it nor can I learn much from the literature I have been able to search. It seems that it is not definitely known just how this condition originates.

REPORT OF CASES.

By M. L. RAVITCH, Louisville.

CASE I.—ERYTHEMA CALORICUM.

Mr. E. W. W., age 29. Last December he was burned by explosion of gas, about the face, scalp and both hands. As the accident occurred in a little village, the patient received very poor attention. The burned parts were covered with absorbent cotton. Later he was removed to town and the cotton had to be pulled off. The parts were washed with antiseptics. Bullae formed in many places. Salve was used, perhaps unguentine. After six weeks, the patient was able to go about.

The erythema caloricum, as a sequel to the burn, began to give him trouble. Pruritus

was the chief symptom, at times it was accompanied with burning and pricking sensations.

Several weeks ago the patient developed erysipelas. It lasted two weeks. It neither aggravated nor improved his condition. Pruritus with occasional pustulation still continues. Pruritus is likely due to atrophic changes which took place in cutaneous tissue, perhaps to gradual disappearance of the papillae, as you see in senile skins.

Can something be done to improve his condition? The pruritus, perhaps, can be overcome, but the cosmetic condition, I think, will not improve.

CASE II.—AN UNUSUAL CASE OF VERUCCA ACUMINATA OF THE MOUTH.

Mr. A. V., age 74, came to me a year ago complaining of a sore mouth. Upon examination I found he was suffering from an innumerable amount of moist warts or verucca acuminata. Chemical cauterizing and astringent lotions have greatly improved his condition. Later on he failed to treat himself as he was directed, and some of the warts assumed a very bad aspect. Some of them have coalesced and are becoming degenerated. It seems to me that in this instance, the irritant that produced the condition is a microbic one.

Microscopical examination showed marked papillary enlargement, excessive proliferation of the rete. This kind of warts do not show any tendency to disappearance and are undergoing cancerous degeneration.

Stronger remedies will have to be resorted to to remove these growths.

OPERATION FOR TRAUMATIC EPILEPSY.

(PRESENTATION OF PATIENT AND REPORT OF CASE.)

By CHALLOM GUY FORSEE, Louisville.

Patient, Mr. S., age 45; American born; married; three children living and four dead; youngest living child 14 years of age. Father and mother living and in good health; brother and sister living and in good health. One sister died of typhoid at the age of 19.

Some time in 1899 or 1900, during the winter, while at work, he struck his head against a projecting timber; was not knocked down but felt very sick. He was seen by a physician who gave him large doses of morphine to control the pain. However, pain in the head and face continued, and was so severe at times that he would become violent. On one occasion, which was in the winter time, he got out of bed in his night clothes and went several squares before he was overtaken and

brought home. Thirteen weeks after the accident he went to Dr. Holloway, who examined him, and referred him to a dentist for examination of his teeth, as he was suffering great pain in the head, teeth and jaw. The dentists reported his teeth all right and sent him back to Dr. Holloway. A few weeks after the accident he began having fits, and at the time he was referred to the dentist he was having them frequently, suffering a great deal of pain in the intervals. Dr. Holloway advised operation, which was done and only a scalp wound and no fracture was found. After this operation he was free from pain and had no fits for three years. After that the attacks returned, first at intervals of six months, and becoming more frequent until, at the time of the second operation, he was having on an average of one a day. Dr. W. O. Roberts trephined the skull and removed a button about half an inch in diameter, the dura being adherent to the button removed. He was relieved by this operation until about one year ago, when he began having the same trouble again, and the attacks soon became as frequent as before. I operated upon him February 12th, 1912, simply removing the scar tissue, which was adherent to the dura, and enlarging the trephine opening. Since the operation he has had two attacks, but he tells me that, following the previous operations he suffered a few attacks. He sometimes has what he calls a burning, stabbing pain in the right side of the head, and occasionally he has to stop work and go home. He has been working steadily since the operation.

I will say that, at the time I operated on him, he had started from the factory where he is employed, to go home, and fell on the street. He was taken to the Infirmary where I saw him and operated.

DISCUSSION.

Wm. A. Keller: I would like to ask Dr. Forsee if he operated through the site of the original injury?

Jno. J. Moren: I would like to ask Dr. Forsee what is his prognosis as to the continuance of these attacks?

C. G. Forsee, (Closing): I will say that the first operation was done directly over the site of the injury, and subsequent operations have been in the same scar tissue.

As to Dr. Moren's question, I think he will probably have a recurrence of these attacks from the history he has given.

REPORT OF SURGICAL CASES.

By IRVIN ABELL, Louisville.

CASE I.—RENAL TUBERCULOSIS.

This specimen was removed from a patient first coming under my care on February 21st, last, having been referred to me by Dr. John Broderick, of Lebanon. Her history is as follows:

Mrs. J. R. S., Lebanon, Ky., age 27. Father living, age 64, mother dead, tuberculosis; seven brothers living, one dead, tuberculosis; three sisters living, one dead, tuberculosis; disease and one with tuberculosis; married seven years, no children, three miscarriages at third month, the last one three years ago. No severe illness since childhood until the inception of present trouble.

PRESENT HISTORY.

In 1904 had an illness diagnosed as "gravel," pain in abdomen, painful and frequent urination: in 1905 passed at one time several small gravel (calculi). Free from pain thereafter. In September 1908 she noted frequent and painful urination, with pain in left side of abdomen: this has continued more or less constantly since, at times more marked than at others: pain in side such as to prevent rest at times and when severe is associated with desire to micturate and intense straining. Frequency of urination more marked when on feet, averaging every two hours during day and ordinarily one or two times at night, occasionally frequency greater at night. Blood never visible to eye of urine. No marked loss of weight. Examination of urine showed a specific gravity of 1013, acid, color, amber; cloudy, albumin present, sugar absent, blood present, pus present, epithelium vesical and renal, uric acid crystals, small hyaline cast.

EXAMINATION.

Patient's general appearance seemed fairly good and she stated that her weight and color to be about her normal. Examination of lungs failed to reveal anything abnormal; examination by circulatory apparatus showed blood pressure of 150, pulse 80, heart sounds normal; examination of abdomen revealed a mass in the left side corresponding to the lower pole of kidney which was very sensitive extending downward over the course of the ureters. Muscular rigidity was found and pain on pressure was noted. Cystoscopy was done under cocaine: bladder mucosa healthy except around the left ureter orifice; this was congested, pointing with oedematous granular appearance. A nodular enlargement along the course of the ureter could be seen under the bladder mucosa; the right ureteral orifice normal. A number six ureteral catheter

was easily introduced into the right ureter as far as the pelvis of the kidney; the catheter would enter the left ureter only for a distance of one inch. Consequently, the left ureter urine was collected from the bladder by means of a Nelaton soft rubber catheter while the right ureter catheter was in situ. Analysis of urine from the right ureter showed the following: transparency clear, reaction acid, specific gravity 1008, urea 8 per cent., uric acid none, total solids 21 grams—1000 c.c., albumin serum trace. Cells: cystic none, renal none, an occasional leucocyte, blood present, round and caudate cells. Casts none. Cylindroids none, shreds none, crystals none, urates present, bacteria an occasional colon. The analysis of the left ureter showed the following: transparency cloudy, reaction acid, specific gravity 1005, urea 5 per cent, uric acid a few crystals, total solids 13 grams—1000 c.c., albumin trace nucleos, haemoglobin present. Cells: few cystic, small round renal, quite a number pus, blood abundant, bladder. Casts: few small hyaline. Bacteria: numerous colon, tubercle bacilli. The phenol-sulphone-phthalein test for renal efficiency gave the following results: appeared in the right kidney urine in 28 minutes and the left kidney urine 30 minutes, the right kidney urine showed 25 per cent. of the drug, the left kidney urine 15 per cent of the drug in one hour's collection. She was operated on at St. Joseph's Infirmary on February 29th, last. Left kidney exposed by oblique incision which was carried one and one-half inches below the anterior superior spine of the ilium. The kidney, which was large and lobulated, separated from its surrounding structures; the arteries and veins of pedicle ligated with silk, the ends being left long; the ureter was then bared to a point below the pelvic brim and ligated with catgut. A rubber drainage tube was carried from ureter stump through the wound and brought out the stab puncture with the silk ligatures and cigarette drain, stab being situated behind the upper angle of the incision. The wound was then closed with sutures of silkworm gut and continuous sutures of chromic catgut.

POST-OPERATIVE HISTORY.

Very little discomfort and remarkably little reaction was experienced from the operation. The wound on account of drainage required frequent dressing; the cigarette drain was removed at the end of a week, the tube at the end of ten days and the ligatures of kidney pedicle and silkworm gut sutures on the fourteenth day. The wound healed, except at point of drainage, by first intention. At the end of the first week bladder frequency became less and at the time patient was discharged from hospital on the twenty-fourth

day, she was able to retain urine from three to six hours. At this time urine still showed the presence of some pus.

CASE II.—SARCOMA OF THE KIDNEY.

This specimen was removed from a woman, 63 years of age. Practically all of her family except herself are dead. The family history, is without interest except that one sister suffered hemorrhages between the ages of 10 and 20, dying at the age of 20.

Present trouble began in August, 1911, when she noticed clots of blood in the urine over a period of one week. She says that the urine was not colored red but contained a number of clots, and at the end of a week she was greatly exhausted from what she took to be loss of blood. During this period tenesmus was marked, accompanied by considerable back-ache, and she was confined to bed for a week. No pain on urination. Subsequent to that time, she suffered attacks of colic in the abdomen, always accompanied by an intense desire to micturate. These lasted about one day, as a rule. Commencing in September, 1911, there has been a constant loss of weight. She weighed at that time 212 pounds, and when she came under my observation her weight had decreased to 168 pounds. During this time no pain was noted, but a constantly increasing weakness. In February, 1912, a mass was noted in the abdomen on the left side. This constantly increased in size, but was never painful, even on pressure. However, she complained a great deal of pain in the left leg, and during the last two months she suffered considerably from intestinal disturbance.

Blood examination showed: Haemoglobin, 65 per cent; red cells, 4,800,000; white cells, 8,000; lymphocytes greatly increased. With that exception, the white cells were apparently perfectly normal. The urine showed nothing abnormal except the occasional presence of leukocytes.

Catheterization was not done by me but by Dr. C. Wheeler, of Lexington. He reported nothing abnormal in either the right or left ureter urine; that the left ureter urine was nothing more nor less than water.

The tumor which we removed, and which I herewith present, illustrates a point that was brought out in the discussion of a paper here a short time ago, on the subject of malignancy; that is, I think it is well, in such cases, to examine for possible secondary deposits before removing the original growth. My diagnosis in this case was a malignant growth of the kidney. Accordingly, a primary incision was made in the left semilunar line, and the abdominal viscera examined for secondary deposits, but we were unable to find any. Consequently, the primary in-

cision was closed, a left lumbar incision made and this growth removed. Microscopical examination shows it to be a round-celled sarcoma of the kidney.

DISCUSSION.

B. J. O'Connor: I cannot add anything to what has been said in regard to the pathology or symptomatology of renal tuberculosis. The symptoms of this condition are frequently overlooked by the patient until the disease has reached a stage where surgery is of no avail. I have seen two cases of that kind, in which there was involvement of both kidneys as well as the bladder. Pulmonary tuberculosis was present in both cases, and operation was refused. In the first case, after four months rest in bed, the patient was able to get up and go about. Four years have now elapsed and the patient has had no symptoms of the trouble in that time. In the other case, which I saw about two years ago, the same line of treatment was carried out. During the first six months the amount of pus in the urine gradually decreased, and to-day it contains practically none. While the symptoms are still more or less marked, the condition has greatly improved, and the patient's general health has also improved.

In a great many cases of renal tuberculosis, the abscess cavities or the tubercles themselves, will undergo calcification. Of course, the kidney substance is more or less destroyed, but there is possibly hypertrophy of the remaining healthy kidney tissue.

The question of tuberculin treatment in these cases is a very interesting one. A great many authorities advocate tuberculin treatment, and I presume that, in selected cases, a great deal of benefit may be derived therefrom.

APPENDICITIS.

(REPORT OF CASES.)

By M. CASPER, Louisville.

CASE I.

Mr. F. N., age 50; developed severe cramps with vomiting and purging following the eating of fish. The physician in attendance had cogent reason for thinking it ptomaine poisoning, as patient gave a history of attacks of so-called "acute indigestion" with frequent attacks of colic followed and relieved by vomiting. These spells always developed after eating a cold lunch at a railroad lunch counter, he being a passenger conductor. This was Friday and these symptoms continued two or three days with first abatement of pain then increase, which phenomena may have resulted from the indiscriminate use of morphia administered at irregular intervals.

I saw patient Monday after physician in attendance had made tentative diagnosis of ap-

pendicitis. Patient presented at this time pain of a general abdominal type and no localized tenderness.

Patient referred to pain as seeming to be worse in loin of right side. Temperature 99; pulse 120; tongue coated; bowels now constipated. Patient felt improved—much improved—and was hungry. His greatest discomfort was in urination and his condition might easily be accounted for by impacted renal calculus in right ureter.

It was not a typical case and was decidedly difficult to diagnose. It was harder still to get not only a seemingly improving patient's consent to operation, but the attending physician's as well.

Operation was performed at once; appendix and cecum were both gangrenous; free pus in abdomen and peritonitis fairly well developed with no attempt at walling off. Hasty removal of appendix, and gangrenous part of cecum removed and inverted, followed by profuse packing and drainage. Ultimate result looked bad, but patient finally recovered after stormy and prolonged convalescence. Tympany was great and lasted two weeks without abating and probably this extensive tympany prevented fatal spread of the peritonitis. Proctoeclysis and Fowler position used; latter kept up for two weeks; in fact patient did badly whenever we resumed horizontal position or any approach to it. An ugly decubital ulcer followed the prolonged Fowler's position and showed to what extent patient's vitality was reduced.

CASE II.

Miss C., school girl; age 16 had never had any complaint of similar or even referable type before. However, she was pale and delicate, and mother remarked always sickly since 4 years old and now had a Bell's palsy.

Was stricken ill Sunday night but not severely and had cramps in abdomen that night and Monday with some nausea and constipation. Still patient was not considered very sick and no doctor was consulted until late Tuesday afternoon.

Diagnosis was made and patient sent to hospital. Patient was no better Wednesday morning. Temperature 99-102; pulse 120; and facial expression indicated more trouble than any other symptom and it was on this that immediate operation was decided.

This case seemed so mild that I was greatly surprised to find a gangrenous appendix and a piece of cecum as big as a dollar gangrenous, and ready to drop out, while the rest of cecum was covered with fibrous exudate. Treatment same as other case but recovery was prompt and uneventful in this case.

CASE III.

Miss H., age 26; stenographer; became ill on Sunday before Christmas with severe colic, which was thought to be a spell like others that she had had. Doctor called and gave a hypodermic of morphia, thinking it indigestion. I saw her Monday night at 9 o'clock, found abdominal tenderness, marked in lower abdomen, colicky pains, tympany and constipation. Temperature 100; pulse 100. Diagnosis, appendicitis and localized peritonitis. Operation revealed bound down appendix, with end sloughed out; numerous adhesions, old and recent, and a pair of pus tubes. Recovery prompt and uneventful.

This case exemplifies the importance of always making a vaginal or rectal examination, else any of us may slip up. I had saved myself unwittingly by remarking that case was complicated in this instance. I have come to the conclusion that the best time to operate in appendicitis is as soon as possible after diagnosis is made in all but a few exceptional cases.

We can't see, nor be sure of what is going on on the inside. It so often happens that the mild cases present the worse pathology when we get inside and it is these mild cases that need the most careful scrutiny; the real bad ones guide their own proper procedure.

I wish to protest against the use of morphia in appendicitis which, though generally recognized as bad treatment, is nevertheless too often used. Also to urge the general practitioner to be a little more careful in calling his colic cases indigestion, and very often not giving the proper examination.

Finally, death in appendicitis is always and only fatal delay somewhere and should never occur.

Acromegaly and Hypertrophic Osteo-Arthropathy.—In the first of the cases reported by Schultze and Fischer the patient was a girl of 15 with a hypophysis tumor, acromegaly and partial obesity. The first symptoms had been observed at 11. In a second case the patient, a man of 56, succumbed to hemorrhage from a myoma in the stomach. He had complained of symptoms on the part of the stomach since a contusion of the region seven years before. Then the acromegaly developed and a tumor was found in the hypophysis. The adrenals in both cases were enormously enlarged, all the viscera having grown to unusual size, the adrenals to five times normal. Some other cases are compared with these and the etiology discussed, especially of the benign tumors in the hypophysis.

ACUTE GASTRO-ENTERIC INFECTION*

By W. W. MORTON, Catlettsburg.

In the etiology of this disease, we find that age and thermogenic exhaustion, coupled with improper food and feeding, are the hubs in the etiological wheels of this disease, or condition.

The spoons are filled in with everything that lowers the general vitality, such as foul air, unsanitary surroundings, want of proper care, and ordinary cleanness. (We often find the child upon a dirty rag or quilt on the floor or bed, saturated in its own discharges, flies swarming over and around the child, and the child often too sick to defend itself against their onslaught, and the mother complaining that the child is not doing well and that the medicine is not doing much good. This is not an unusual or rare sight for many of us, and is only drawn upon to remind you that the same care and motherly attention is given to the preparation of their food).

Bacteria, saphoritic and pyogenic are also vital factors. Faulty digestion, weak constitution. The hand-fed, or rather over-fed, suffer the most, for they suffer most of the time from a gastric intestinal catarrh caused by improper food and feeding, and this season of the year the food contains more bacteria and the larder more dangerous and improper foods. The breast-fed are less susceptible on account of better digestion and their food is free from bacteria and bacterial changes.

But the over-heating and swilling of the mother's stomach or the improper or strenuous life on her part, coupled with a taste of this or that at the table and often chewed first for them, thus incorporating what pathogenic bacteria her mouth contains with other improper food will soon leaven the whole lump into a hot-bed of disease. And the common and dangerous practice of nursing or feeding them all the time to keep them from crying, these practices will soon suck the breast-fed into the etiological wheel, but they are not so easily broken up on this wheel as the hand-fed, for if you will clean out their little stomachs and rest them for twenty-four hours, most of the grave symptoms will disappear. Not so with the hand-fed, or over-fed. They will wheel on and on and we will have much to do with them in pathological field later on.

Remember the heat has much to do with the toxemia and the virulence of the pathogenic germs is increased. The excessive heat causing a diversion of the fluids of the body from kidneys to skin, to such an extent that excretion is almost exclusively carried on by the skin, the result of which is that a great amount of the toxic products of excretion are re-

tained in the system. It has been estimated that the sweat glands only eliminate about one-fourth as much as the kidneys. Thus in this disease you have a dangerous proportion of the resulting toxemia that you must get rid of through the bowels and kidneys. You also have a lowering of the blood pressure which, as you know, will further decrease the elimination of toxins.

And last but not least, on account of the enormous loss and diversion of fluids you have a flagging heart.

I will now call your attention to the demon of destruction that has been crowned as a harmless associate for the destruction of the innocents, viz: Teething. And why, because they told us so, and we told them so. They told grandma so, and they told grandpa so. That old man "They" is hard to down, but we must run him down to save the little ones.

We must teach grandmothers, grandfathers, cousins and aunts, that they are not only teething but that they are engaged in a mortal combat for their little lives. And we as well must learn to look outside the little dental suck, that only takes the dental pulp a few weeks to dissolve and destroy, for etiological factors and look well into the little stomach and what goes into it, for it is the starting point and the battle ground. So do not forget that in this condition they are not only teething but *sprouting wings*. We have been told, some of us *young fellows*, to lay open wide the little gums. Why? To let in some bacteria, I suppose, that could not enter safely by the old route. We have been told it was an etiological factor and closely associated. They are in this way, for just at this time in childhood, or evolution, there is a very rapid functional activity going on that pre-disposes to gastric as well as intestinal infection. That only takes a little improper food and feeding to fulminate. To illustrate:

Fill a six ounce stomach with twelve ounces of milk and you will have a distention that will arrest digestion. Plus fermentation, giving you a pathologic distention. That strangulates the gastric follicles, jugulates the blood-vessels, weakens and *widens the field of infection*, inhibiting the nervous impulses that preside over the valves of the stomach, thus shutting in this vile mass of putrefaction, until the resulting chemical changes wrought upon the sympathetic nerves, causing them to open wide both valves of the stomach—Nature's safety-valves—through which the vile mass is expelled by vomiting and purging. You have all witnessed this and have been thankful to kind nature for its good results, and you have no doubt, as I have had, great trouble in preventing the anxious friends from again repeating the dose.

We will now take up the pathology.

*Read before the Boyd County Medical Society.

We find a superficial catarrhal condition of the whole gastro-enteric tract which will vary in different cases and regions. The colon, lower ileum and stomach suffer most. Duodenum and jejunum least. The stomach as you would expect, is distended and contains undigested food. Its walls intensely congested in spots, and surface covered with a tenacious mucus. (That arrests and prevents digestion). The condition of intestines are about the same and in them you have the same congestive spotting and in lower portions undigested and very foul and offensive material. Now why do you have this intense congestion and congestive spotting in stomach and in the intestines? They do not tell us—the books. I think that it is due to, or rather they are manifestations of, chemical disintegration, due to the metabolic activities of microorganism engaged in satisfying their nutritional requirements. This poaching upon a suitable soil, made so by the ingesta and the constitutional disturbance, causing the congestive spottings, which might fittingly be compared to burns of first and second degree. 'Tis here in the severe type where it crosses the imaginary line into ilio-colitis or the neuritic form.

SYMPTOMS.

As a rule you have a gradual onset with little or no fever. Child is fretful, cross, especially at night, stools abnormal, mild gastric disturbances. At first they are generally let alone under the impression that they are only *teething*. The child grows pale, limbs or muscles become soft or flabby. They sleep little at a time, lose their spirits, do not want to play, are hard to amuse, lose flesh, and are generally out of sorts and *sick*, bowels giving them trouble. All the symptoms will gradually grow worse. In another type, or the grave form, the child seemingly is in good health. Will suddenly get sick, skin will be hot and dry. Temperature ranging from 102 to 106 degrees, lies in a stupor with sunken eyes, weak pulse, very restless, rolling its head from side to side. May have great thirst grabbing at everything offered, or upon the other hand may refuse everything, vomiting and purging. Vomiting at first food that has been in the stomach for hours, they continue to vomit after stomach is empty on account of action of toxemia on central nervous system. The stools are first fecal with great bursts of flatus. Later the stool only consists of thin green material that is very offensive. They may have from fifteen to twenty stools a day—after a time you will have mucus, epithelial cells, blood, bile, etc.

In the feeble child you may get no reaction from these severe attacks, child only living a few days. This may be explained by the

known fact, viz: that the intestinal secretions taken as a whole, possess very feeble resisting power over bacterial *multiplication*.

The well known fact of the normal presence of bacteria increasing from duodenum to colon, that have and will remain with us until death. Whether they are helpful or not, I do not know. (Schattellias thinks they are), but we do know with a healthy mucosa, a healthy and normal cellular, actively normal peristaltic wave to pass them on and out, we can take care of them and vice versa. And right here let me remind you lest I forget; the bacterial flora are largely due to ingesta.

DIAGNOSIS.

Attacks of intoxication cannot be differentiated from acute indigestion, but it is not essential if you will go after it at once. If you will note carefully the grave nervous symptoms, high temperature, stinking stools, unusual look and restless condition of child, you will want to know if the digestive symptoms are the cause of the fever, or the result of the fever. After flushing out the stomach and bowels you can tell. If due to the former most all the grave symptoms will disappear after this. On the other hand the condition remains grave. You may have convulsions, profound stupor and opisthotonus, etc., simulating meningitis very closely, and other sympathetic phenomena that is very misleading, but do not let them lead you off on a wild goose chase; they are mute signals of the profound toxemia. Fight it out on the original battle ground—the little stomach and bowels. Look well to what goes into them and examine carefully what comes out and you will be well informed as to the internal condition. Do not forget that you will have cases suffering from this disease in which you will have no diarrhoea but an obstinate constipation and in some diarrhoea delayed for twenty-four to thirty-six hours. The toxemia simply paralyzing the peristaltic wave, and you will have great trouble in getting them to move. In the infant vomiting is not so common, but pain—colicky pains—are more common and skin eruptions more frequent. The temperature is of an irregular and intermittent type. That is a malarial climate, and undoubtedly you have them in combination. It would be strange if you did not, but you have the test for malaria and the remedy.

I have not encountered this disease in the winter months, only in some cases of bronchopneumonia. Then I have found it in such a true type that had it been in summer months, I would have overlooked the pneumonia. Why should it be reproduced in such true form in this condition, I do not know, unless it is due to an autoinfection, but why due to this I cannot say. We might class the exist-

ing condition to an etiological factor, like teething, but it would not elucidate matters much.

TREATMENT.

I feel like saying elimination. Plenty of pure, fresh water outside and inside, proper food and surroundings, and letting it go at that. But we all want to know what the other fellow gives, etc., and I take it that is just why we have these meetings to talk it over, exchange views, etc., and thus grow broader and more proficient.

Let your remedies be intelligent and energetic from the start, keeping in mind the fact that the normal balance has been upset, and in severe types you have anatomic changes in the gut, and that absorption of your medicines, as well as your foods, will be difficult. They will select and absorb some, reject others, and pass them on and out through the bowels. This loose condition of the bowels is helpful. The old women have noticed this and you have no doubt often heard them say their bowels have been checked too soon. And it is correct they should not be checked too soon, but should be cleansed out with castor oil, as often as the stools show indications of fermentation and putrefaction. I give the castor oil for two reasons: 1st, because it retards bacterial activity; 2nd, because it cleans out the alimentary tract better than anything else and I might add, it is sedative and healing.

I cannot take up infant feeding here, it is too large a subject for this paper. But this you will have to master in a way and adapt to each case; you will have to shift your percentage, change your dilutant and foods until you find one the child can digest.

Return to milk as soon as you can, but *very carefully*.

Those of you who have witnessed the lightning-like change in a child that seemingly was getting well, after returning to milk, can understand this injunction.

This explosive action of the toxic bodies in alimentary tract, whether produced in cow's milk by overheating, according to Brush, or by a typo-toxiann (a poisonous alkaloid formed during the decomposition of milk), according to Vaughan, I do not know.

The medicines that have served me best are calomel, bismuth, salol, the sulphocarbonates, and some of the silver salts. I rarely use opiates in any form. 1st, because children bear them badly; 2nd, because I think they are contraindicated where toxic materials are shut up in the system. In this disease the bromides will relieve the nervous condition better than the opiates because it is a neurotic toxemia.

Brandy and digitalis are indicated.

Inherited Predisposition to Diabetes.—Heiberg quotes Frerichs' 10 per cent. of 400 cases of diabetes in which an inherited predisposition might have been inriminated; Kulz' 25 per cent. of 592 cases; Naunyn's 17 per cent. of 398; von Noorden and Williamson reporting about the same percentage, while Schmitz found a history of diabetes in other members of the family in 47 per cent. of 2,115 cases. Heiberg tabulates the data he has learned from investigating the family history among 100 diabetic and 100 other hospital patients of the same class, not including any pay-patients. Only seven relatives with diabetes were found among the 100 non-diabetics while the corresponding number among the 100 diabetics was eighteen. The diabetes had commenced before the age of 10 in seven of the 100 cases and in eighteen between 10 and 20. In 90 per cent. no cause for the diabetes was known; in the others there was cirrhosis of the liver or lithiasis. Even making due allowance for the fact that a history of diabetes in the family is more likely to be learned by a diabetic than by the non-diabetic, still the preponderance of evidence is in favor of heredity as a predisposing factor.

Systemic Gangrene.—Udaondo says that Raynaud's disease is comparatively frequent in Argentina, the humidity of the climate being possibly a contributing factor. The history of the affection is reviewed and the importance emphasized of Peletes and Bonnin's two recent cases in which Addison's and Raynaud's diseases were associated in adults, and of a case reported in 1908 in which Raynaud's disease became accompanied later by exophthalmic goiter. Voivenet and Fontaine have also reported six cases of Raynaud's disease accompanied by perverted thyroid function. In two cases in Udaondo's own practice, the symmetrical disturbances in circulation developed in previously healthy individuals. He regards Raynaud's disease as shown to be a series of symptoms resulting from some toxic action on the nerve centers or the peripheral branches. Even in the so-called idiopathic form—which is encountered in about a third of all cases—there must be some latent infectious process or disturbance in some organ with an internal secretion as the primary source for the toxic action.

Polygrams of Moving Organs.—The principle of the moving picture is applied by Levy-Dorn and M. Silberberg, only they make the two or three exposures all on the same place without changing it. The resulting composite picture shows the varying outline of the organ at the different periods, and gives instructive oversight of the motor conditions as they show by a number of examples.

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THE NEXT MEETING

The next meeting of the Kentucky State Medical Association will be held in Louisville, at the First Christian Church—Dr. Powell's church—on October 29, 30 and 31.

A REPORT ON THE STATE BOARD OF HEALTH.

We esteem it a great privilege to publish the conclusions of Mr. Wickliffe Rose, the Executive Secretary of the Rockefeller Sanitary Commission, as a result of his recent trip to Kentucky. They are so important that we trust this letter will be read by every one interested in the betterment of health conditions in Kentucky.

Mr. Rose, as might have been expected in so astute an observer, has grasped the secret of our success in his reference to the wonderful organization of our medical profession. When it is understood that the activities of the State Medical Association are primarily for the betterment of health conditions and that every doctor worthy of the name in Kentucky is cooperating in this great work, nothing else but the splendid results he mentions were to be expected.

The important thing about it all is that every resident in Kentucky is under suspicion until at least two examinations have been made of specimens of his feces, and no one should rest content without having this examination made.

DISPENSING.

It seems perfectly natural that a good deal of confusion should have arisen in the past few years between physicians and druggists on this important subject. In an active, general practice in the country it is practically

impossible to write prescriptions for any considerable number of cases and the medicine must be dispensed by the general practitioner. There is no law on the Statute books to prevent this, and there should be none. On the other hand, no physician should permit himself to keep on hand or sell patented and proprietary articles, about whose contents he knows nothing. We have recently received letters from a number of physicians stating that they had received letters from one person or another warning them not to dispense or sell drugs. Of course this is all nonsense. Every physician has a right to supply such articles as may seem to him proper to his patients, and may compound his own prescriptions. It is a violation of law for a physician or, for that matter, anybody else, to sell habit-forming drugs. This is as it should be, and a doctor who would sell morphine, or similar preparations, or mixtures containing these things, to the people ought not only to be prosecuted, but is unworthy the name of our great profession.

BUBONIC PLAGUE: A POSSIBILITY.

The following excellent and timely editorial is reproduced from the August *Maryland Medical Journal*:

Word has been received that bubonic plague is prevalent in the islands close to our shores. Cases of true bubonic plague have been reported in Santiago, Cuba, and other cities near our coast. Several years ago there was an epidemic of this disease in San Francisco, Cal., which was only stamped out at great cost and energy. At that time the director in control of eradication was Dr. Rupert Blue, now Surgeon-General, United States Public Health and Marine Hospital Service. He waged an energetic and successful fight, and also warned the Eastern

cities by a statement that they might at any time expect to be visited by a like calamity unless they took measures to banish the rat. This notice has not been heeded, and with the disease so close at hand its presence amongst us may be expected at any time. Eternal vigilance is the price of success. In this case is meant the banishment of the rat. For plague is primarily a disease of rats, whence it is conveyed to man by rat fleas. The method of elimination of the disease is therefore obvious. Get rid of the rats. The destruction of rats gets rid of the fleas, and as fleas are a necessary link in the chain of conveyance of the affection from rat to man, the disease cannot be carried. Dr. Blue during his San Francisco experiences proved the possibility of the eradication of the rat. He accomplished this apparently impossible task first by starving the rodent. This was done by placing household waste and garbage—the food of the rat—in air-tight metal garbage cans with tight-fitting lids. Particular attention must be paid to this detail, and no waste or possible food must be left about the dwelling. The premises must be kept scrupulously clean. Boxes, waste, rugs, etc., which offer a harbor, must be removed, so that the animal cannot find a place of concealment. Render the rat homeless. Force him out of his burrows under old buildings and planks. Compel him to come out into the open, where he will be easy prey to dog or cat. The dog will be found especially valuable in the work of destruction. If the harboring places of the rat are destroyed, his elimination is an easy matter. Old plank walks should be taken up and replaced with concrete. Dirt-floor cellars should be concreted. Back fences, which afford a convenient run, should be taken down. The stable is a favorite home for rats. The manure affords a warm and comfortable nesting ground, and the food bin a plenteous source of food. The plank floors should be replaced with concrete, the grain kept in metal-lined bins, and manure should be stored in metal-lined or concrete pits and removed at least once in every eight days. One of the greatest drawbacks to the control of plague in San Francisco was the constant addition of infected rats from newly arriving ships. This obstacle was overcome by placing wire screens over the sewer outlets. The grocery shop, the market, the butcher shop are under present conditions infested with rats, as they offer an abundance of provender. San Francisco proved, contrary to public opinion, that rat-proofing was possible in these establishments. "A wise old rat" is a common saying, and there is no doubt but that the rat is a cunning animal and full of resources, but a starving rat is not so particular as to his food. In better times he will pass by poisoned tidbits, but

in dire distress and an empty stomach such a little thing as poison in food is apt to be overlooked. New Orleans and Norfolk are alive to the possibility of introduction of plague into their ports, and have taken time by the forelock. The health authorities of those cities are paying five cents for every rat head brought to the department. It is not amiss that the Board of Health of Maryland, and especially that of Baltimore city, start a campaign for the destruction of the rat, and thus limit the likelihood of the appearance of the plague. For without the rat there can be no plague.

HOW TO STUDY.

No professional man worthy of the name fails to study; when he deludes himself into the belief that his mental capacity is such that he does not need the elevating and enlightening experiences of others, that he feels that he can dispense with good hard and continuous study, then he is suffering either from an egocentric state, has fossilized, or is simply, in plain language "lazy, trifling, and good for nothing." "Helps to Study," is the title of a short article in the August *Popular Science Monthly*, written by Prof. Jos. W. Richards, of Lehigh University. We quote: "To study, means to concentrate the mind and attention on the subject, and to keep it there until the difficulties are mastered and the subject understood." We might parenthetically remark that it takes a certain caliber of brain to be capable of study, and that the subject studied must be within the range and capacity of the cerebrating cerebrum.

His suggestions are excellent, and as the first enemy to good study he mentions a roving attention, the allowing to come into the mind of thoughts or recollections foreign to the matter being studied. These lapses are usually the result of a weakened inhibition, for it is absolutely essential that the mind in its activities should be kept well in hand, and that the personality of the individual be the master, and compel it to do what it will. Concentration then, and the control of the direction of mental activity is oftentimes a good gauge of mental power.

Another disturbing feature is noise or interruption, and he well says that it makes no difference as to whether it is as melodious as the finest music, its action, of course is to distract the attention. Personally we agree with Prof. Richards, and it is to be regretted that students, and this should include those made hoary headed in any work that they may have followed, do not learn early in life to so control the current of their thought as to make them more or less oblivious to noise.

and sounds around them. We all recall some interesting cases of intense concentration, and the failure to hear sounds and noises about them, especially the story told of Archimedes at the time of the siege and sacking of Syracuse. This ancient mathematician (and inventor of the endless screw) was not aware of the turmoil of war, the slaughtering and destruction of men, women and children around him, but so absorbed was he, that when the soldiers broke into his room, with drawn swords, he merely exclaimed "Eureka! I have found it." My personal experience has been that if we will study a book or article, with a view to marking the essential and excellent parts, underlying them, this will have the tendency to concentrate the attention, and will afford an excellent synoptic review of the book or article.

Prof. Richards says that in day time, the light should come side ways, and at night that the student's table should be the center, or focus of the light, and the rest of the room in semi-darkness or darkness. Thus, brie-a-brac and the olio podrida of the modern room would not distract. We quote: "A lighting scheme, which lights the whole room is worse than useless, it is undesirable. The better the book is lighted and the more the rest of the room is in comparative darkness, the easier it is for the student to keep his attention fixed on the book and the less is he distracted by seeing the other things in the room. Is it not an old trick of the artist, to focus and hold the attention by the brilliantly colored "center," (such as the child's face in Corregio's "Holy Night"), in the midst of an obscure background." This is indeed true, and we congratulate the author upon his selection of such an artistic illustration. He believes in a green shade over the light, with enamel white inside, and the stand placed a little in front and to the left. He recommends the oil student's lamp, but where it is possible, the reviewer would much prefer the use of the tungsten lamp of not too great candle power, for as he well says "we see the print by contrast of nearly black against nearly white; with no illumination there is no contrast, as the illumination increases the contrast becomes better and reading is easier. At a certain point the contrast is greatest and reading easiest." If the light is right, most of us can read and study without fatiguing the eyes, and thus at one and the same time, conserve our energies and progress with our studies. I presume that it may be truly said of a great many in the profession that they do not study.

"Pity 'tis, 'tis true, and 'tis true, 'tis true."

CURRAN POPE.

ALCOHOL AND THE ANTARTIC POLAR EXPEDITION.

Speaking in general, broad terms, alcohol is not a stimulant; this statement would be combatted. I would venture the assertion, by eight out of ten men, who have not given the matter any study or real scientific observation. Alcohol should never be considered a beverage; it is a drug, a poison, and belongs to the group of chloroform, ether, et al. In the long run, alcohol devitalizes, lessens function and stimulates the growth of certain tissues that are destructive of the parenchyma of various organs. The skillful and learned physician dislikes, and often dreads the alcoholic factor in his patient. It is one thing that must be considered whenever a prognosis is given; it colors and tinges every factor in the makeup of an individual! It acts more promptly and with greater severity upon the young and women than upon men. It is probably the most notorious degrader of morals, being more frequently employed by the unscrupulous in this manner than any other measure. Its free imbibition and distribution may make a man "a good fellow," but it oftentimes ends by making him "a bad patient," and it might be added, a bad insurance risk.

Upon the central nervous system and upon mentality, its pernicious influence is always shown. The false feeling of stimulation, is oftentimes in reality, the inability to comprehend ones own mistakes and lapses. That it is the basis of some forms of delusions is unquestioned; especially the delusion of marital infidelity.

Dr. Jacques Liouville, the physician, surgeon and naturalist who accompanied the Charcot expedition to the South Pole has given an account of some experiences he had on this Antartic expedition.

While he was on the "Pourquoi-Pas," he had an opportunity to observe the effects of the absence of meat and vegetables, which produced in several of the crew a polar malady, with the symptoms of scurvy, anemia, etc. He had three surgical cases to handle. His comments are illuminatingly brilliant and may be summed up as follows: Recovery was highly satisfactory, said the Doctor, and very prompt, due possibly, he thinks, to the entire absence of pathogenic bacteria, and partly to the fact that there was *not a trace of alcoholism in the patients*. No polar expedition permits the use of alcohol in any way, shape or form; it is too dangerous a poison for men engaged in the hazardous and strenuous dashes that are made in the polar regions. The Doctor takes a just pride in the fact that this was the first polar expedition, which ever restored all its members to their homes in a perfect

state of health. To the neurologist, who sees so many of the finer misfortunes of alcohol, these statements come as an interesting verification of well known facts.

CURRAN POPE.

AN OPPORTUNITY.

Under the head of official announcements we are publishing a communication from Dr. W. H. Forsythe, who may, at present, be reached at 148 East Broadway, Louisville, where he is staying while on a furlough. Dr. Forsythe is a distinguished member of the State Medical Association, and no more interesting statement of the great opportunities open to physicians in foreign lands has been made than in this powerful appeal he writes.

It is not necessary for the JOURNAL to say that a similar opportunity is open to every physician in Kentucky. As one goes about healing the sick it is impossible to neglect the greater opportunity of teaching the great lessons of a better life here and hereafter. No profession—medical or otherwise—in the whole world is doing more along these lines than the splendid medical profession of Kentucky. Dr. Forsythe is a conspicuous example, and it is a pleasure to assure him that hundreds of his confreres here in Kentucky are serving the Lord and their fellow-man along the same lines and in the same way that he is doing. The opportunities mentioned in Dr. Forsythe's communication are great, and if any of our profession are interested it will be well for them to communicate with him while he is in the United States.

ILLUMINATING CORRESPONDENCE.

In the forum, we are publishing an illuminating correspondence between one, H. D. Edgers, who seems to be the distributor for a brand of whiskey from Louisville, and Dr. T. C. Holloway, of Lexington, which is self-explanatory. We wonder how many physicians received this outrageous letter and we would like to know if anyone of them has reached so low a stage as to have responded favorably to this insulting offer so that steps might be taken to purge the profession of such disgrace. We trust, however, that there was not a single Kentucky doctor so thoroughly lost as to have entered into this dishonest traffic.

Artificial Cell Production.—Delfino's illustrated article explains the chemical production of crystals and colloids and shows how it is possible, with inorganic salts and colloids, to produce imitation of natural cells. The artificial cells have a nucleus and undergo mitosis and can be stained, fixed and preserved by the ordinary methods of histologic technique.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

RELIABLE MEDICINES.

Articles found eligible by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies."

BISMUTH BETA-NAPHTHOLATE (Bismuthi Betaphtholes) is a bismuth salt of beta-naphthol. It is a brownish or greyish powder without odor, almost tasteless and insoluble in water. It is decomposed into its constituents in the intestines and hence is used in catarrhal and fermentative gastro-enteric disorders, such as gastritis, dysentery, diarrhea, etc. Dose, for children 0.1 to 0.3 gm. (1-2 to 5 grains) and for adults 1.5 to 5 gm. (22 to 75 grains) daily.

BISMUTH BETA-NAPHTHOLATE, Mulford complies with the description given above. It is also marketed in the form of tablets each containing 0.3 gm. (5 grains). H. K. Mulford Co., Philadelphia.—*Jour. A. M. A.*, June 15, 1912, p. 1857.

REFORM IN MEDICINE.

POLITICS AND QUACKERY.—The community of interest between certain politicians and quacks is evidenced in the appointment of a congressional committee to investigate the fraud order issued against the cancer cure concern conducted under the name of Drs. Mixer. The evident purpose of this committee is to whitewash C. W. Mixer of Hastings, Michigan, who conducts the cancer cure concern. As a further illustration of the community of interest C. W. Mixer is advising his prospective Chicago victims that he has been appointed assistant sergeant-at-arms to the coming Republican National Convention.—*Jour. A. M. A.*, June 15, 1912, p. 1862.

*The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Ave., Chicago.

THE RADIUM CONTENT OF DIORADIN.—An examination of a specimen of Dioradin made in Holland indicated that but 1-1000 of the claimed amount of radium was present. While examination of one specimen is no proof that all specimens of Dioradin contain but a small fraction of the radium which they are said to contain, it proves at least that the manufacturer's claim should be viewed with suspicion. Physicians who are asked to use this preparation should refuse to do so until it has been approved by the Council on Pharmacy and Chemistry.—*Jour. Mich. State Medical Society*, June, 1912, p. 358.

TRENCH'S REMEDY.—Trench's Epilepsy Cure is sold in Great Britain in the form of a liquid containing potassium bromid and ammonium bromid. In the United States it is sold in the form of a powder which was reported to consist of potassium bromid, 61 parts and moist brown sugar, 39 parts. When this was dissolved in water, according to directions, the finished mixture was calculated to contain potassium bromid 120 grains in each fluid ounce. It is thus seen that this nostrum like all other "epilepsy cures" depends for its virtue on bromids which given in quantities larger than any physician who respects his patient's welfare—or his own reputation—would dare to prescribe, produces effects that impress the layman with their potency. Those who purchase these "epilepsy cures" mistake a temporary suppression of the attacks of epilepsy, produced by large quantities of bromids, for a cure.—*Jour. A. M. A.*, June 29, 1912, p. 2043.

TAKING THE MEASURE.—At one time the Tilden Company, New Lebanon, N. Y., stood rather well with the profession and hence it has been a surprise to some that none of its preparations are found in New and Nonofficial Remedies. The reason is given in a report of the A. M. A. Chemical Laboratory on Hydrocyanate of Iron—Tilden. The report showed that the firm held the composition of the remedy a "trade-secret"—analysis showed it to be a mixture of Prussian blue and tale—and that the statements made regarding it, if not absolutely false, were at least distinctly misleading. A recent prosecution of the Tilden Company for misbranding its acetanilid-phenacetin mixture, Febrisol, shows that the firm's policies have included deception.—*Jour. A. M. A.*, June 29, 1912, p. 2043.

TAKA-DIASTASE AND LIQUID TAKA-DIASTASE.—About three years ago the Council on Pharmacy and Chemistry rejected Taka-Diastase and Liquid Taka-Diastase because examination showed that the products on the

market did not comply with the claims made for them. Recently it was decided that a re-examination should be made to ascertain whether the preparations were now in accord with the claims made for them by the manufacturer. The examination having shown that unwarranted claims are still made the committee which made the examination recommended that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand. The report having been submitted to Parke, Davis & Co., this firm reiterates its claim for the digestive power of Taka-Diastase, but admits that it will not reduce the stated amount of starch to the colorless end-point in ten minutes (the standard method for the valuation of diastase). It further states that it would change the word "digest" on the label to "liquify". In view of the contention of Parke, Davis & Co., the Council referred the entire matter to a member of the Council's staff of clinical consultants for final recommendation. This referee concludes that the claims of the manufacturers regarding the strength and properties of the material are erroneous and exaggerated; that the literature still sent out by Parke, Davis & Co., is misleading; and that if substitution of the word "liquify" for "digest" were endorsed by the Council confusion would result which would give an exaggerated and false value to Taka-Diastase. The Council accepted the recommendation of the referee and voted that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand.—*Jour. A. M. A.*, July 6, 1912, p. 50.

OFFICIAL ANNOUNCEMENTS

REPORT OF THE EXECUTIVE SECRETARY OF THE ROCKEFELLER SANITARY COMMISSION ON HEALTH CONDITIONS IN KENTUCKY AFTER A VISIT AND INSPECTION.

July 20, 1912.

DEAR DOCTOR:

I have just returned from Kentucky. You may be interested in a few facts picked up on this journey afield:

1. The last Kentucky Legislature enacted a law authorizing the State Board of Health to conduct a summer school for county health officers and making it obligatory on all county health officers to attend the school, the counties paying the expenses. This school was held in Louisville July 8 to 11. In addition to the health officers many county judges were present and took an active part in the work.

2. The program covered in its main outlines the work of the county health officer; the

instruction was definite, concrete and effective; the principal themes were illustrated with lantern slides, maps and other exhibits. The meeting was immensely valuable; it marks a new day in the public health work in Kentucky.

3. Hookworm disease, because of its importance and because of its being new to the health officers in this State, was given more emphasis than any other subject. This instruction brought immediate results; when I left the laboratory at Bowling Green on the morning of the 15th there were about 1,000 specimens on hand, most of them from county health officers.

4. All the lectures on hookworm disease that I heard in Kentucky impressed me with the value of local pictures. Dr. Locke gave at Louisville the most effective series of illustrations that I have seen; he had made his own slides from photographs which he had made of mountain homes, the sanitary conditions, the people whom he had treated in his own district. The story was from his own experience; it was irresistible. A man's best working tool is his own capitalized experience.

5. Dr. Locke is trying a new method of administering the treatment. The patient takes the first dose of salts Friday night or Saturday morning; the second dose of salts Saturday night; on Sunday morning the thymol is taken in three parts at 6, 7, and 8 o'clock, the patient remaining in bed; at 10 o'clock the last dose of salts is given and the patient gets up. He reports that as far as he has been able to make a second microscopic examination, 90 per cent of his patients have been cured by one treatment.

6. Out in the field I saw the most eager and intelligent response on the part of the people to our work that I have seen any where. On Thursday, Friday, Saturday and Sunday, July 11 to 14, I went with Dr. A. T. McCormack on a tour of preliminary inspection through some of the more remote rural districts of Edmonson county. Dr. Heizer, the vital statistician, and a microscopist were with us. On Friday afternoon at Brownsville Dr. Heizer and I went up to the public school, made a group photograph of the children, gave them a talk on hookworm disease, and asked that each child give us a specimen for examination. Dr. Heizer having expressed doubt of our ability to secure specimens in this way, the request was made primarily as a test of the attitude of the children. Miss Fox, the teacher, gave support, and practically all the children brought in specimens next morning.

That evening the court house was crowded with people from the little town and the surrounding country to hear the illustrated lecture on hookworm disease. Dr. McCormack announced that persons desiring examination

could secure containers at the close of the lecture; that if they would bring in the containers on the following morning, the microscopist would examine them and that all persons found infected would be given free treatment. By 8 o'clock next morning the specimens were coming in; by 10 o'clock he was overwhelmed and had to announce that specimens would be sent to the laboratory for examination and that he would return later to conduct a free dispensary.

On Saturday at noon we arrived at Bee Spring where a lecture had been announced for 2 o'clock at the school house. We had to adjourn to church to accommodate the crowd. The church had to be darkened for the lantern; it was the hottest place I was ever in; but the people heard the last word and remained after the lecture to get the containers for specimens to be sent to the laboratory. The leaders at this meeting were the local representatives in the State Legislature and local collector of vital statistics. I was greatly impressed with the effectiveness of these local registrars of vital statistics as an agency in this campaign of education.

7. Of all my observations in Kentucky, the thing which impressed me is the effective organization, the enthusiasm, the aggressive energy of the State Department of Health, and the way in which it is enlisting other agencies in public health work. Every person connected with the department is fired with the spirit of service; every person, whatever his own specialty, is ready at all times to lend a hand in any department of the work. Dr. Heizer, for example, is vital statistician; but his chief concern is not to make statistics, but to make his statistics *vital*, to make his facts tell a story and get this story to the people. If you had seen him in action on our journey afield, you would have thought the eradication of hookworm disease in Kentucky was his special task. Dr. South has charge of the laboratory. She is not content merely to examine the specimens that are sent in to her; she has caught the idea that the laboratory was established to serve the people of Kentucky, to be an aggressive factor in bringing about better health conditions in this Commonwealth. To this end she goes to the people with illustrated lectures and demonstrations, to show the people what the laboratory can do and how they can use it for their own good. At the Louisville meeting she gave an illustrated lecture and had a laboratory running in an adjoining room for the three days. In addition to other work, she had hookworm specimens enough to keep two microscopists busy. She went before the State Federation of Women's Clubs at the recent annual meeting, gave an illustrated lecture and appealed to about 800 representa-

tives of the club women of the State as a patriotic duty to have their own families examined for hookworm infection, to get their neighbors interested and put the matter before the clubs which they represented. She followed this up by writing a letter to each of these women and sending the containers. It is not surprising that this makes work for the laboratory. It gets overwhelmed then increases its force. When other funds had been exhausted, the State Medical Society supplied funds for the salary of the microscopist to examine specimens for hookworm disease; Dr. McCormack asked his Council to take enough from his own salary to pay another microscopist and now they are wondering where the next is to come from.

Then they have enlisted Dr. Mutchler, the biologist at the Normal School. There isn't a more effective health officer in the State; each year he teaches these health lessons to about 1400 public school teachers. He was at Louisville and gave one of the best illustrated lectures of the course.

I know no state in which the medical profession is so well organized. In the survey of the State for hookworm infection the physicians have given indispensable cooperation. The State Board of Health keeps in constant touch with them and calls on them for definite service and they give it.

I repeat, the thing which most impressed me was the aggressive energy of the State Department of Health and of all persons connected with it; the way in which the work of each department is reinforced by the sympathetic and active cooperation of all; the passion of service which is becoming contagious and enlisting the citizenship of that State in making better health conditions for the people.

Very sincerely yours,

(Signed) WICKLIFFE ROSE.

THE PHYSICIAN'S OPPORTUNITY IN NON-CHRISTIAN LANDS.

In those countries like China, India, Africa, Korea, Arabia, Persia, and many others, as well as many of the Islands, are a multitude of people who have no adequate provision for their sick and suffering. In these countries, through the absence of Christianity and in consequence, great multitudes suffer and die every year, and a vast amount of it is needless and might be prevented.

Great epidemics, like the recent one of plague, in Manchuria, sweep thousands and thousands into eternity. In addition, cholera, mumps, malaria, typhoid, typhus fevers, beri-beri, many kinds of diseases due to intestinal parasites, and multitudes of other preventable diseases add their yearly harvest of precious lives.

Lack of sanitation, disposal of sewerage, and soil protection add to the unspeakable conditions in these lands. The native treatment of disease is to say the least crude; in many instances barbarous.

Surely the tender chord of sympathy in a physician's heart should be touched at this "great open sore of the world," waiting for some one to come and heal. Bright young men are waiting to be taught medical education. Great systems of sanitation and reform are to be worked out. In China alone there are opportunities beyond the human imagination, for Christian physicians who are willing to invest their lives in the greatest enterprise in the world. Hospitals and colleges are to be established; diseases stamped out; despair and death to be changed into hope and life. Think what it would mean to stamp out leprosy in these lands, which it is almost safe to say, by proper efforts could almost be stamped out in one generation. Great fields of investigation are open to research work. Surely this is a life that would appeal to any Christian physician, who is able to go.

Isabella Bird Bishop, the great world traveller, after looking upon the suffering in these lands said, "The need was so great, that unless prevented, it would induce all who could do so, to enter training as a medical missionary." David Livingstone, of Africa; Peter Parker, of China; and many others have added glory to our profession.

There are less than 1,000 medical missionaries in the needy fields of the world to-day. There is a call for a number of men, ready and willing to undertake this great work, from various places. Information regarding these places can be obtained from Mr. Wilbur Smith, 125 E. 27th St., New York City.

The different churches are calling for medical men to-day. Those wishing to go should apply under their own church Foreign Mission Board. Travelling expenses, a home, and usually a hospital are furnished. The object while it is to relieve suffering is, *primarily*, to bring the knowledge of our Lord Jesus Christ to these people.

The Southern Presbyterian Church is calling for one man for Africa; one man for Korea; several for China. For information as to these places write to Executive Committee Foreign Missions, 154 5th Ave., Nashville, Tenn.

These are only instances of the numerous calls. May many Christian men answer. "Also I heard the voice of the Lord, saying, Whom shall I send, and who will go for us? Then said I, Here am I; send me."

W. H. FORSYTHE, M. D.,
Medical Missionary.

PRELIMINARY PROGRAM

SCHEME OF WORK

LOUISVILLE MEETING, 1912				
HOURL	Tuesday	Wednesday	Thursday	HOUR
MORNING SESSION				
8	(8) HOUSE OF DELEGATES	(1) CLINICAL SURGERY	(8) HOUSE OF DELEGATES	8
9	OPENING SERVICE	(1) CLINICAL SURGERY	(1) SURGERY	9
10	(2) EYE DISEASES OF CHILDREN	(2) EAR, NOSE AND THROAT DISEASES OF CHILDREN	(2) DISEASES OF CHILDREN	10
11	(3) PHARMACOLOGY AND THERAPEUTICS	(3) PHARMACOLOGY AND THERAPEUTICS	(3) PHARMACOLOGY AND THERAPEUTICS	11
12	(4) ORATION IN MEDICINE	(1) ORATION IN SURGERY	(6) ADDRESS	12
AFTERNOON SESSION				
2	(4) PRACTICE OF MEDICINE	(1) PRACTICE OF MEDICINE	(1) PRACTICE OF MEDICINE	2
3	(5) NERVOUS AND MENTAL DISEASES	(5) NERVOUS AND MENTAL DISEASES	(5) NERVOUS AND MENTAL DISEASES	3
4	(6) PREVENTIVE MEDICINE AND PUBLIC HEALTH	(6) PREVENTIVE MEDICINE AND PUBLIC HEALTH	(6) PREVENTIVE MEDICINE AND PUBLIC HEALTH	4
5	(7) OBSTETRICS AND DISEASES OF WOMEN	(7) OBSTETRICS AND DISEASES OF WOMEN	(7) OBSTETRICS AND DISEASES OF WOMEN	5
EVENING SESSION				
7	(8) HOUSE OF DELEGATES	(8) HOUSE OF DELEGATES	MONDAY, OCT. 7 (8) HOUSE OF DELEGATES	3
8	ADDRESS OR SOCIAL SESSION	ADDRESS OR SOCIAL SESSION	(8) ASSOCIATION OF COUNTY OFFICERS	7

PROGRAM OF GENERAL MEETING

OPENING SESSION--TUESDAY, 9 A. M.

Call to Order PRESIDENT J. G. CARPENTER
 Opening Prayer
 Address of Welcome
 Response
 Installation of the President.
 Address of the President.
 Report of the Committee on Arrangements.

ADDRESSES

President's Address at 9:40 A. M. Tuesday.
 Oration in Medicine at 12 M. Tuesday CURRAN POPE
 Annual Address at 8 P. M. Tuesday.
 Oration in Surgery at 12 M. Wednesday ARCH BARKLEY
 Address on Preventive Medicine 12 M. Thursday.

SECTION ON SURGERY

G. A. HENDON, Chairman. A. D. WILLMOTH, Secretary.
 PROGRAM.

Our idea of arranging this feature of the program is to invite two local surgeons to serve as a Committee at each hospital and arrange with the Hospital Authorities for the admission of visitors and for the presentation of clinical material.
 We will issue tickets for each hospital in number corresponding to the capacity. The City Hospital has a large amphitheatre. No tickets will be issued or required to attend clinics at the City Hospital.

SECOND DAY--WEDNESDAY, 8 TO 10 A. M.

PLACE OF CLINIC. COMMITTEE IN CHARGE.

Children's Free Hospital A. M. Vance, J. L. Richardson
 Deaconess Hospital H. H. Grant, J. H. Penke
 Jewish Hospital Oscar Bloch, August Schachner
 Norton Memorial Infirmary Louis Frank, G. S. Hanes
 St. Anthony's Hospital W. H. Wathen, John R. Wathen
 St. Joseph's Infirmary Irvin Abell, J. M. Ray
 Sts. Mary and Elizabeth's W. O. Roberts, Simral Anderson
 Louisville City Hospital Staff of the Hospital

SECOND DAY--12 O'CLOCK

Oration in Surgery ARCH H. BARKLEY

THIRD DAY--THURSDAY, 9 O'CLOCK A. M.

Certain Surgical Conditions of the Right Upper Quadrant of the Abdomen WOODFOLK BARKOW, Lexington
 To Lead in Discussion L. S. McMURTRY, Henderson
 Gun Shot Wounds of the Intestines CURTIS GRAHAM, Henderson
 To Lead in Discussion R. C. McHARDY

SECTION ON DISEASES OF CHILDREN

V. F. BOJGENS, Chairman. W. A. JENKINS, Secretary
 PROGRAM.

FIRST DAY--TUESDAY, 10 O'CLOCK A. M.

Acute Suppurative Otitis Media; Its Recognition and Treatment by the General Practitioner C. T. WOLFE, Louisville
 To Lead in Discussion M. MOSS, Bowling Green
 Infant Mortality; Its Causes and Prevention H. E. TELBY, Louisville
 To Lead in Discussion J. R. MORRISON, Louisville
 Disease of Infant and Childhood R. J. ESTILL, Lexington
 To Lead in Discussion A. W. DAVIS, Morton's Gap

SECOND DAY--WEDNESDAY, 10 O'CLOCK A. M.

Common Diseases of the Eye in Children; Their Recognition and Treatment by the General Practitioner G. C. HALL, Louisville
 To Lead in Discussion W. M. FLOYD, Henderson
 Unexplained Pyrexias of Early Childhood W. A. JENKINS, Louisville
 To Lead in Discussion J. W. PRYOR, Lexington
 Diagnostic Errors in Diseases of Children R. H. MOSS, Henderson
 To Lead in Discussion R. B. GILBERT, Louisville

THIRD DAY--THURSDAY, 10 O'CLOCK A. M.

Therapeutics of Children B. J. O'CONNOR, Louisville
 To Lead in Discussion J. J. ROPMAN, Owensboro
 Enteric Therapeutics of Childhood P. F. BARROCK, Louisville
 To Lead in Discussion J. J. ADAMS, Munfordsville

SECTION ON PHARMACOLOGY AND THERAPEUTICS

W. W. ANDERSON, Chairman. W. E. SENOFF, Secretary.
 PROGRAM.

FIRST DAY--TUESDAY, 11 O'CLOCK A. M.

DOMESTIC MEDICINE:
 Sense and Nonsense of J. J. YOUTSEY, Newport
 To Lead in Discussion G. G. THORNTON, Lebanon
 Self Medication J. H. HOHNSTET, Fort Thomas
 To Lead in Discussion J. D. LILES, Vaneburg
 Training of the Domestic Nurse J. O. JENKINS, Newport
 To Lead in Discussion W. H. STROTHER, Owensboro

SECOND DAY, WEDNESDAY, 11 O'CLOCK A. M.

(TO BE SUPPLIED)

THIRD DAY, THURSDAY 11 O'CLOCK A. M.

Alcohol; Its Therapeutic Uses and Limitations W. E. BOJGENS
 (General Discussion).

SECTION ON PRACTICE OF MEDICINE

B. F. ZIMMERMAN, Chairman. V. E. SIMPSON, Secretary.
 PROGRAM.

FIRST DAY--TUESDAY, 12 O'CLOCK

Oration in Medicine CURRAN POPE, Louisville
 TUESDAY, 2 O'CLOCK

TUBERCULOSIS:

Radiographic Diagnosis E. T. BRUCE, Louisville
 The Blood Picture EVERETT MORRIS, Sulphur
 To Lead in Discussion CARL WEIDNER, Louisville
 Pellagra J. G. OWSLEY, Laid

SECOND DAY--WEDNESDAY, 2 O'CLOCK P. M.

Experimental Nephritis MARTIN H. FISHER, Cincinnati
 To Lead in Discussion W. H. MACCRACKEN, Louisville
 Perinephritis W. L. CASH, Princeton
 To Lead in Discussion C. L. EDWARDS, Seelye
 Vascular Tension in Chronic Illness J. D. MUTTERS, Ashland
 To Lead in Discussion W. J. SHACKLETTE, Nolin

THIRD DAY, THURSDAY 2 O'CLOCK P. M.

Typhoid Carriers ARCH DIXON, Henderson
 To Lead in Discussion J. B. MARVIN, Louisville
 Arterial Sclerosis; Early Diagnosis W. C. USSERY, Paris
 To Lead in Discussion J. H. MOORE, Danville
 Complications of Typhoid Fever A. S. DENTON, Robards
 To Lead in Discussion LOUIS P. BALZER, Hickman

SECTION ON NERVOUS AND MENTAL DISEASES

GEORGE P. SPRAUKE, Chairman. J. J. MOORE, Secretary.
 PROGRAM.

FIRST DAY--TUESDAY, 8 O'CLOCK P. M.

PELLAGRA:
 Symptoms and Diagnosis M. W. STEELE, Corbin
 Unusual Types E. H. CLARKE, Lexington
 As Related to Insanity W. E. GARDNER, Lakeland
 As a Public Health Problem O. P. NUCKOLS, Pineville
 In Eastern Kentucky (Lantern Slides) J. H. HENDREN, Cary

SECOND DAY--WEDNESDAY, 8 O'CLOCK P. M.

Anterior Polio-Myelitis J. A. AVERDICK, Covington
 To Lead in Discussion R. L. BIRD, Covington
 Cerebro-Spinal Meningitis VERNON ROBBINS, Louisville
 Serum Treatment
 Cases With Deductions E. B. BRADLEY, Lexington

THIRD DAY--THURSDAY, 8 O'CLOCK P. M.

Anisotropic Lateral Sclerosis J. B. MARVIN, Louisville
 To Lead in Discussion MILTON BOARD, Louisville
 Diagnosis of Epilepsy JOHN J. MOORE, Louisville
 To Lead in Discussion A. A. GOODSON, Dixon

SECTION ON OBSTETRICS AND DISEASES OF WOMEN

J. T. REDDICK, Chairman. C. E. KIDD, Secretary.

PROGRAM.**FIRST DAY--TUESDAY, 5 O'CLOCK P. M.**

The Surgical Solution of Certain Medical Problems
 CHAS. A. L. REED, Cincinnati
 To Lead in Discussion WM. H. WATKINS, Louisville
 Management of Placenta Previa W. B. GOSSETT, Louisville
 To Lead in Discussion J. B. JACKSON, Hopkinsville
 FETTERAL ECLAMPSIA:
 Pathogenesis GEO. J. HERMAN, Newport
 Management W. B. MOORE, Cincinnati
 To Lead in Discussion W. A. POOLE, Henderson

SECOND DAY--WEDNESDAY, 5 O'CLOCK P. M.

Indications for Cesarean Section
 W. D. HAGARD, Nashville, Tenn
 To Lead in Discussion L. S. McMURTRY, Louisville
 The Passing of Destructive Operations in Obstetrics
 EDWARD SKIDDEL, Louisville
 To Lead in Discussion J. W. ELLIS, Masonville
 Endometritis W. L. MOSBY, Bardwell
 To Lead in Discussion H. S. KELLER, Frankfort

THIRD DAY--THURSDAY, 5 O'CLOCK P. M.

The Care of the Breasts During Pregnancy and Lactation
 S. L. BEARD, Shelbyville
 To Lead in Discussion T. L. HENRY, Morganfield
 The Care of the New-Born S. A. FRAZIER, Marion
 To Lead in Discussion O. R. KIDD, Paducah
 Injuries to the Parturient Canal During Labor
 DELIA CALDWELL, Paducah
 To Lead in Discussion CHARLES W. HIBBITT, Louisville

ORIGINAL ARTICLES**RENAL INFECTION.***

By S. H. RIDGWAY, Shepherdsville.

At the outset the writer wishes it understood, that his experience has been limited, in dealing with this class of cases, necessarily, therefore, for much of the information herein produced he is indebted to the published reports of other observers.

A repetition of important data pertaining to kidney conditions, is not only permissible, but essential in order that we may get them firmly fixed in our minds.

Notwithstanding the great advancement made in the study of these conditions in the last few years, I believe that it is in its infancy.

It is an undeniable fact that a great many diseases of the kidney are never correctly diagnosed, this is true more especially of the infections, why is this true? Because of the fact that we do not have a systematic exami-

nation made of the urine. Many of the obscure troubles we meet with, would be properly diagnosed, if such urinary examinations were made.

We should take into consideration the fact that the kidney is one of the most important excretory organs of the body, then when we approach the bedside of a patient it would be well enough to ask ourselves the question, are we dealing with a healthy or diseased kidney? If a diseased kidney, what is the offending bacilli, and what effect is it going to have on the function of this most important organ in the future, as well as the present? This will depend upon the severity of the infection, and the amount of inflammation produced.

As to the frequency, Dr. Brennemann, of Chicago, says that it occurs in 1 per cent. of all the illnesses of infancy and early childhood. Dr. Abt, of the same city, says that it occurs so frequent that it should be considered a common disease in infancy. In adults not so often, but more frequent than reports show.

ETIOLOGY.

Practically all forms of inflammation of the kidney are due to bacteria; but in a great many instances other factors must be present before infection takes place. Some of the predisposing causes are such conditions that cause a retardation of the flow of urine, viz.: calculi in the pelvis, floating kidney, enlarged prostate gland, and stricture of the urethra, other causes, trauma organic condition that will lower the resisting power of the epithelium of the organ.

The active causes are, the colon bacilli, streptococci, staphylococci, tuberculosis bacilli, most frequent in the order named. These microorganisms may enter from the bladder through the ureter. We find this mode of entrance in the aged, the old men with enlarged prostate glands, when they are compelled to use the catheter for relief from retention of urine in bladder, or there may be a descending infection take place through the blood or lymphatics; it is the opinion of most observers that this is the most frequent mode of infection. There is no doubt that the various bacilli pass through the blood and lymphatic streams to the excretory organs, and if they find a suitable soil, multiply, producing an active condition, the exact pathology of it is very difficult to differentiate, it may be nothing more than a bacteriuria, without any lesion of the urinary tract, or it may be one of the numerous inflammatory conditions of the kidney, viz.: pyelitis, pyelonephritis, pyonephrosis, two or more of which may coexist.

What train of symptoms does a disease so

varied in the intensity of its attack produce? We are confronted with a condition from a mild bacteriuria, to a severe inflammatory or suppurative process, therefore we will have a varied symptomatology. Symptoms may be classified as urinary signs, such as pain and tenderness in the loins, disturbance of urination, these may be so mild as to hardly attract attention. In the chronic cases continue an indefinite time with an occasional acute exacerbation of more or less severity, or they may be acute with a very sudden onset and be very severe. In a great many cases, pain in the bladder is the most prominent symptom, this may be a referred pain or due to the irritation produced by excess of acid caused by the growth of bacteria and pus from the kidney. In a case which I wish to refer to later on, this was the most prominent symptom.

The general symptoms of renal infection may vary from those due to autointoxication from renal insufficiency to actual septicemia according to the severity of the process. Fever varying from a low to a very high temperature, very often preceded by a chill or a slight cold spell, this may occur in the acute attack, during the chronic cases, from the acute exacerbation. These attacks of fever are frequently followed by profuse sweating. There may be symptoms referable to the stomach, nausea, attack of indigestion.

DIAGNOSIS.

Any disease that presents such a varied symptomatology and pathology must of necessity be difficult to diagnose. In making a diagnosis of renal infection, it is necessary that we should examine the kidney thoroughly. If we have a history of a chill with fever and sweats, some irritation of bladder, pains in the loins, we can be reasonably sure of an infection, after getting a train of symptoms mentioned above, our attention should be directed to a thorough analysis of the urine, that will give us accurate information. In some forms we do not get such pronounced symptoms. In the chronic forms it may run a considerable time without any of the constitutional disturbances, mentioned above, but in all cases of an obscure trouble, there should be an urinary examination made. If the general practitioner is in doubt about the exact pathological process he is dealing with, he should then give his patients the benefit of the doubt by taking them to some one who is competent to make a cystoscopic examination, and use the ureter catheter, then there is no doubt of the diagnosis.

PROGNOSIS.

The course and prognosis varies markedly in different cases, depending upon the char-

acter and virulence of the infection, the accessory etiological factors present, it is better in pyelitis than when the kidney substance is involved, in acid than alkaline infection.

We must not forget that the disease is very insidious and that while we are nursing ourselves in a false security because the symptoms are unchanged, marked disease in the kidney may be taking place, which will suddenly completely change the clinical aspect. Kuster mentions four favorable factors in the prognosis, the possibility of an early correction of the urinary stasis, youth, a strong constitution, and unilateral lesion.

TREATMENT.

Treatment is preventive and active. Recognizing the accessory etiological factors, and knowing that an active bacterial invasion will take place if these factors are left uncorrected, it then becomes our duty to adopt treatment to correct them.

Dr. Apt says that soiled napkins are the most fruitful sources of renal infection in infancy. Our instruction to the mother or nurse, should be most emphatic, about not leaving the napkins on after they become soiled. Those who consult us for stricture should be advised as to the possibility of renal infection, and impress upon them the necessity of having their condition corrected as speedily as possible. In the old man, the prostate gland being enlarged, which is the most fruitful cause of ascending infection, we should adopt a more watchful attitude, so as to avoid the catheter life that is so annoying. If a man in middle life should consult us for too frequent urination at night, and knowing the importance of this symptom, to be the forerunner of an enlarged prostate, which sooner or later will give him serious trouble, we should give him positive instruction in regard to his personal care, and the possibility of future complication if our instructions are not obeyed.

Surgical treatment should be given for the relief of such conditions as floating kidney, renal and cystic calculi.

Diet should be watched after as carefully as most any condition we have to deal with, especially the acute form. We know that if the patient is a hardy eater, that the waste product of the gastro-intestinal digestion is liable to undergo putrefaction, and some of the results of such putrefaction is eliminated by the kidneys, consequently an irritation is produced that will aggravate the condition, the diet should be such as the stomach can take care of without leaving any residue.

Medical treatment depends upon the reaction of the urine and the offending bacteria. Dr. Brown takes the stand that the growth of the bacteria is inhibited in a medium of dif-

ferent reaction from what it is accustomed to, therefore he uses the bicarbonate or citrate of soda or potash if the urine is acid, if alkaline boric or benzoic acid. According to some writers this would be a dangerous procedure, because they claim that the prognosis is better in the cases with an acid infection than in the alkaline, then if we have present those bacteria that thrive better in the alkaline urine, we may substitute a severe infection for a mild. In the acute form rest in bed, diluent drinks, liquid diet and the urinary antiseptics, of which urotropin and salol is the best, will cure a majority of cases.

In the chronic and subacute forms, the use of the treatment outlined above, with a judicious use of the vaccines properly selected for each case, will work wonders. The relief of the accessory etiological factor should also receive attention before a permanent cure can be had.

After using the above form of treatment and the case still lingers, nephrotomy may be necessary, and I believe advisable.

In this connection I wish to report the following case:

F. H., farmer, age 35. Family history: Father died with pulmonary tuberculosis, mother died with Bright's disease. Personal history: Was always healthy up to eight years ago, had an attack of appendicitis, was operated upon, found abundance of pus, after a tedious convalescence he fully recovered. About four years ago, he noticed that he was unable to do the same kind and amount of work, as he formerly able to do, on account of weakness. Following this he noticed a small amount of pain on urinating, which was more frequent than usual, the urine had a very offensive, fecal odor. Attacks of indigestion, pain in the loins, extending down to the scrotum.

Last summer he went to the city to consult a specialist, he remained in the city a week or ten days, received treatment for inflammation of the bladder, returned home with slight improvement in the bladder symptoms, no improvement in his general condition.

March 21st, of this year, I was called to see him. He had a temperature of 102 following a chill, pulse 98, tongue dry, considerable thirst, pains in loins extending down to scrotum, extreme tenderness over kidneys, more over the left than right. I gave him a thorough cleaning out, with a calomel purge, gave aspirin, quinine, and urotropin. He continued to have chills, fever and sweats. I then procured a specimen of urine, it showed the following: reaction acid, specific gravity 1025, albumin, abundant; indican, abundant; cystic cells present, renal cells, none; pus, abundant; blood, occasionally; casts, none;

bacteria, colon, abundant—streptococci and diplococci.

April the 19th I gave an injection of the combined bacterial vaccine, in six hours he had a very decided reaction.

April 20th, the chill and fever was very mild; on the 21st they were absent. Every four days I gave him an injection of the vaccine. He continued to improve, gained in flesh, weighs more than ever before. In June he began to feel the old symptoms returning, he went to the city to consult his specialist again, he was again treated for inflammation of the bladder; he returned without any improvement. I then sent another specimen of urine to the city and it showed the following: reaction acid, specific gravity 1020; albumen, a trace; cells, cystic, a few; renal, none; pus, abundant; blood, occasionally; casts, none; bacteria, abundant—colon bacilli.

I have had him on urotropin, 10 grain doses four times a day, since July 1st. He has been doing some better but not as much improvement as he should. I feel that this man is carrying a condition in his kidney that some day will give him serious trouble, if not relieved. Would it not be advisable to have a cystoscopic examination made of bladder and catheterize the ureters so as to determine the exact condition?

Case No. 2: C. P. B., a black-smith by trade, age 23, family history negative. He has always been healthy, last November he began to notice an inability to do the work required of him, he would begin to ache around the loins and in the small of the back, complained of pain on urination, lost flesh and had a general weakness of the muscular system. He was under treatment for a while, not much improvement, he spoke to me about his extreme suffering at intervals, in fact so severe as to make him almost cry out, the pain is all in his back extending around to front of abdomen, sometimes it will dart down to penis, there is no pain on urinating now, only a desire to pass urine more often. A specimen of urine was sent to the laboratory, the analysis shows the following: Reaction alkaline, albumen, nucleo, abundant, mucin present, indican present, sulphates, chlorides, and phosphates increased, cells cystic and abundant, pus abundant, casts none. Shreds of mucus, bacteria, colon bacilli, micrococci enterohalis, staphylococci. This case just fell into my hands July the 30th, therefore I have hardly had time enough to give an accurate report.

STOMACH TROUBLES AND THEIR MANAGEMENT BY THE GENERAL PRACTITIONER.*

By G. G. THORNTON, Lebanon.

It is not my purpose to discuss all stomach troubles in this paper nor to go deeply into their diagnosis and treatment, but to attempt, in a practical way, to elucidate some points in those cases that give the general practitioner so much trouble where he often gives the patient very little benefit. Text books as written by the specialists on these troubles, are generally not entirely satisfactory to us men who have to deal with many of these people who are not in a position, financially or otherwise, to have a strictly scientific diagnosis and treatment made and carried out. Most, if not all, of the book-writers deal with the subject as seen and handled by the specialist as a rule, after the patient has passed from the general practitioner's management, when said patient is willing to try, or submit to, anything the doctor says. Then he is willing to have the stomach tube used, and to have the test meal and all of the chemistry that can be brought to bear on the case, and even submit to an exploratory operation to find out the pathological conditions present in order to make a more complete diagnosis.

When these patients consult the general practitioner they usually regard their trouble as of no great importance and are not willing to submit to all of these things, some of them not being willing to try for any considerable length of time a restriction in diet. Indeed many of these cases can be well managed by one who can read symptoms and signs correctly without resorting to the finer aids in diagnosis, which the extreme case may require. Here I may recall to your minds what you have so often seen in your experience in these cases, viz.: the familiarity with which the laity use the terms, indigestion, acute indigestion, and dyspepsia, and the fact of their seeming to feel that when they have told you that they have one of these troubles, that you or any one ought to be able to understand and prescribe for the condition without any further inquiry or hesitation. If this is true, as I believe you will corroborate me, that it is, there is a reason, and I believe that it is because they have been cultivated up to it in some way and in my opinion it has been mostly by the doctors who have been careless in their use of terms.

I have found that indigestion means to the layman anything from the slightest unpleasant sensation in the neighborhood of the stom-

ach to the most intense pain of appendicitis, or, of gall-stone colic.

The troubles of which I shall speak are acute and chronic, though I shall say very little of the former as they will generally get well of themselves after a short time. Acute indigestion, which manifests itself with a paroxysmal cramping pains in the region of the stomach should, I believe, always be relieved by an emetic, because attempts to relieve it otherwise is apt to result in failure and to prolong the suffering and in most cases emesis finally results before relief is obtained. In my experience I have found nothing to do this more satisfactorily than 10 grs. pulverized ipecac in capsule to be repeated in 30 minutes if needed. If the pain is very intense and the indications are for prompt relief a hypodermic of from 1-20 to 1-10 gr. of apomorphia will do the work more promptly and more completely but the nausea is much more pronounced.

Subsequent treatment 1 c.c. pill U. S. P., every 5 or 6 hours until effect is produced and withholding diet until hungry is all that is needed in these cases.

In those cases accompanied by vomiting and purging, known as cholera morbus, which the doctor usually sees after nature has gotten rid of the offending matter and is keeping up the good work very much to the discomfort of the patient, there is nothing better than 1-4 to 1-2 grain sulphate morphia and 1-100 grain sulphate atropia given hypodermically for immediate effect and subsequent treatment need be very little, in the way of medicine. Let the stomach rest till nature calls for food by hunger and then use prudence in kind and quantity for a day or so and the patient will feel better than he has for some time.

The main cases which I had in my mind when I selected this subject are those of a chronic nature, omitting cancer, ulcer, and many others less common.

Sometimes these people will come to you with their minds filled with grave apprehensions that they have heart trouble, and will tell you that their hearts beat rapidly and hard, that they have smothering spells, and feelings which they declare they can not describe, and wind up by saying they feel queer. On inquiry you may or may not find them to be constipated. They have a full feeling as if their stomachs swelled after eating and sometimes they will tell you that they feel better while eating, or that if they will eat something it will relieve them for a while. Most of them will tell you that they have a fair or good appetite. Occasionally they will suggest that perhaps they have "catarrh" and you will, if you observe closely, find that these folks, as well as other folks,

*Read before the Middletown Hill Medical Society.

who talk about "catarrh" seem to imagine that it is some kind of a fungous growth which will last indefinitely, and which has some "spook-like" characteristics. These people are nearly always nervous, sometimes hysterical and sometimes neurasthenics and need to be handled just right to keep the impression made on the nervous system from becoming too great. These cases in times past have been laughed at and their symptoms treated with levity and told that their troubles were all imaginary, and they have gone from bad to worse and either become the prey for charlatans, or worse, have become confirmed invalids or been sent to the asylum. In some of these cases the nervous element is so pronounced that it is hard to say whether the nervousness gives rise to the stomach trouble or the stomach trouble gives rise to the nervousness. In any case it is always well to take both elements into consideration in the management of these cases as it is hard to handle either satisfactorily without giving some attention to the other.

In my opinion, simple hyperacidity is seldom accompanied by constipation, and when we have constipation with hyperacidity we nearly always have chronic gastritis, or catarrh of the stomach. In hypo-acidity we frequently have a diarrhoea and again there is a condition of the stomach in which the food, instead of digesting, undergoes a fermentation and which is accompanied by eructations of hydrogen sulphide that is always accompanied by diarrhoea and aching and a general bad feeling, and which sometimes gives rise to a suspicion of typhoid fever. This condition has in my experience given the general practitioner more trouble when he comes in contact with it than almost any other condition which is so amenable to treatment when treated correctly.

Some people have naturally weak digestive organs that have to be handled, so to speak, with care while most people who suffer from chronic stomach trouble are more or less to blame themselves for what they suffer.

In considering their management, one of the first things is the causes which produce them. The one who is over-worked and who eats too rapidly, chews and masticates his food imperfectly has improperly prepared and cooked food, who eats irregularly, who sleeps too little and worries constantly is putting a strain on the digestive organs that few are able to stand without some ill effects being observed. Sometimes the cooking is such that only the best stomach can stand it and it is impossible to give the relief sought without a change in cooks as well as diet, etc. There are probably more stomach troubles due to this source than most of us imagine. All these people need is to be instructed in the way

they ought to eat and as to what they should eat. I often say to them that the human race has not yet developed a gizzard to grind the food up after it has been swallowed whole or in large lumps. If they have had teeth they should, if possible, have them filled and kept clean, and if this cannot be done then they should have them taken out and have some made. Teeth that can not be used to chew but which only serve to incubate putrid, offensive debris to be carried into the stomach only act as a menace to the stomach and should be looked after.

The individual who presents himself, saying that his appetite is fair, but that he has an uncomfortable, heavy feeling after meals, attended with what is commonly called "heart burn" and is not constipated, can usually be relieved by giving a tablet made of sodii bicarb. 5 grs; pulv. rhubarb, grs. 2; pulv. ipecac, gr. 1-4; tincture nux vomica, 7 min.; and oil peppermint, q. s., before each meal, or this may be combined with a tablet made of charcoal and vegetable pepsin. The patient should be instructed to abstain from solids, pickles, or anything which has any acids in them.

The individual who presents himself, complaining of fear of heart disease, who has been watching his pulse, looking at his tongue, and has had his thoughts turned inward and has become so absorbed in his own troubles that he can hardly concentrate his mind on anything else, and who will tell you that sometimes he thinks he is going to be paralyzed, or perhaps lose his mind, that he feels queer, that he has a heavy sensation in his stomach and chest, that he has a feeling that if he could belch a good belch he would feel better, and that he is constipated, that he feels better while eating than at any other time, that hog meat and anything sour disagrees with him and that he has burning in his stomach, and that when he takes a drink of cold water it does not seem to reach the spot, is one that is in a good way to have a good deal of trouble in getting well and unless he strikes the right man, is apt to change doctors fast and often, and to finally become disgusted with the profession and try advertisers and fakes.

These people sometimes eructate their food and will tell you that when they belch it burns their oesophagus and there is generally a decided tenderness over the stomach on deep pressure. These cases will tell you that their stomach and bowels never seem to have any life in them and that when their bowels are moving good their stomach is better.

These cases need to be dieted and instructed what to eat and how to eat. Coffee, hog ment, and all acids should be cut off. The patient should have the sympathy of the doctor

and the doctor should have the confidence of the patient. There is a hyper-acidity, a diminished peristalsis, and excess of mucus to be overcome and besides this there is the condition of the nervous system which has been brought about by this condition which has to be reckoned with. Laborious work and worry as far as possible, must be left off. The former is much easier to manage, usually, than the latter.

There is no use to tell the patient not to worry, and not to think about the stomach and heart as they will be all right, because he could as easily forget an aching tooth as the other. His mind has to be diverted in other ways and gradually brought back to the normal. Light work, going to bed early, taking a nap during the day, pleasant company, and visiting friends together with some nerve sedative—during the day, if needed, and at bed time to make the sleep deeper and sweeter, thereby getting full benefit from nature's sweet restorer. To overcome the acidity and lack of peristalsis a tablet of rhubarb and soda, similar to the one mentioned above, to which has been added 5 min. fluid extract of cascara sagrada, often fills the indications fairly well. Should this not do all that is to be desired, a teaspoonful of maltine with cascara sagrada after meals with about 5 grs. sodii bicarbonate before meals will meet the indications in many cases admirably. There is no digestive element that will make the digestive process much better unless peristalsis is increased, therefore, whatever is given must be accompanied by some laxative. If improvement is not as prompt as it should be I am sure there is nothing that will be of more benefit than washing the stomach out thoroughly once or twice a day in connection with the other treatment. This should be done when the stomach is empty, as when there is food in the stomach it is difficult to keep the tube from becoming occluded by particles of food getting in it. Sometimes even with an empty stomach, when there is much mucus, it will give trouble with the first washing. Two or three gallons of water should be used at a time, and I usually alternate with warm and cold thereby producing more of a tonic effect on the mucous membrane. I have had patients where everything else that I had tried had failed, where there was obstinate constipation, that after beginning the washing and leaving off all other medicines, the patient improved from the start and the constipation was relieved completely. Most patients can be taught, after having their stomach washed two or three times, to wash it themselves with the help which they can get at home. Probably all of these patients would be benefited by using lavage from the beginning but most

of them will not submit to it until they have tried other measures out.

Rationale of this is that it removes the mucus which covers the walls of the stomach and any debris which may remain from the former meal and leaves the stomach clean and sweet and allows the food to come in direct contact with the mucous membrane and produce the natural stimulating effect on the flow of the gastric juices which could not be when the walls of the stomach were coated over with a considerable amount of mucus. Again this contact with the mucous membrane would cause, or stimulate peristalsis in the stomach which is so essential to normal digestion. Many cases have come under my observation where I was unable to give the desired relief without this means that yielded nicely with it.

There is another condition of the stomach to which I alluded above, that causes the patient no end of trouble and finally leads to invalidism if not managed properly, and that is what I shall call fermentative indigestion. One of the most prominent and constant symptoms of this being the eructation of hydrogen sulphide and diarrhoea. The patient has a good appetite but feels badly all the time and often complains of aching all over and there is a continual looseness of the bowels. There may be many ways of treating this condition satisfactorily to you but I tried many things singly and combined before I struck the combination and I will here give it to you. It is resor-bisnol, put out by Burrough Bros. If you don't like the proprietary, just give bismuth oxide, 8 to 12 grs. and resorcin, 2 to 4 grs., in capsules before each meal, and if you don't get results promptly and sure just be a little patient because if your patient has been sick for months or, as I have seen, for years and under good doctors, too, you should not expect too much in a very short time. In from a few days to a month your treatment will tell. Of course where the condition has run on for a good while the treatment will have to be kept up for some time.

Syphilis of the Bladder.—Michailoff's patient was a woman of 39, the wife of a physician; she complained of a dragging pain in the hips and recurring hematuria during the last five years. The hip region pains had recurred at intervals during fifteen years. The cystoscope revealed numerous papules resembling the cutaneous lesions of syphilis. The Wassermann reaction was negative, but repeated a week later it gave a positive response, and under mercury and iodid internally and boric acid irrigation of the bladder, the bladder affection took a remarkable turn for the better.

AN EPITOME OF MEDICAL ACHIEVEMENTS.*

By W. J. SHACKLETTE, Nolin.

The practice of medicine, in a crude way, began at a very remote period. At the earliest date of recorded history we find the Egyptians had achieved a process of embalming their dead, that in many respects, surpassed any method known to modern science.

In the time of Moses, the Egyptians had some idea of the benefits to be derived from dietetics and sanitation. In the book of Leviticus many rules are laid down pertaining to matters of public health.

Emerging from the mythical age of the Egyptians and Greeks, other writings have come down to us relating to the practice of medicine; most notable among these, may be mentioned six volumes attributed to Thoth and Hermes. In these we find they had acquired some knowledge of the nature and treatment of disease; surgery had received some attention and a few crude instruments were described.

The inhabitants of India, many centuries before the Christian era, seem to have accomplished some things which we scarcely do at this advanced age. They are credited with having an ointment that caused the sear of small-pox to disappear; and they cured the bites of poisonous snakes with a remedy, the composition of which is not known to modern medicine.

The ancient Greeks, through the rigid observance of certain rules of culture, acquired a degree of health, strength and physical endurance that has scarcely been equaled in modern times. Though their ideas of sanitation were based upon somewhat different principles to those of to-day, they performed some remarkable feats along that line; such as the directing of the channel of a polluted river away from a city, and in another instance, causing the swift and pure waters of one stream to flow into the sluggish waters of another washing it out and cleansing it of its impurities; and at another place a high wall was built on one side of the city to protect it from foul and offensive air blown from some polluted quarter.

During all this early history medicine was clouded in mythology and superstition; and not until the time of Hippocrates does its clear and rational history begin; and for many centuries after this, religion continued to exert a retarding influence on medical advancement.

Hippocrates was a Greek physician and lived in the third and fourth centuries before Christ; he is called the "Father of Medicine."

and traced his ancestry, on his mother's side, to Hercules, and on his father's to Aesculapius, who was termed the "God of Medicine." Hippocrates was a close observer, traveled considerably and left a great many writings. He had acquired a knowledge of medicine far in advance of his predecessors. Authors have varied in the enumeration of his writings, but those appearing to be most authentic are: prognostic, apherism, the first and second books on epidemics, those on air, waters and places, articulation, luxations and fractures and the meehlic, or treatise on instruments and reduction; these with later works of Pythagorus, Plato, Aristotle and others formed the most ancient authentic monument of medical science.

The views set forth in these writings influenced the minds of leading men of medicine for centuries to come. Hippocrates formulated the moral oath that bears his name and which has, to a great extent, formed the basis of all medical ethics to the present time.

The achievements of medicine up to the seventeenth century seem few and crude when looked at from a twentieth century view, but when we consider the great difficulties under which ancient investigators had to labor, we wonder how they accomplished so much. Investigation was discouraged and in many cases prohibited; discoveries were laughed to scorn, and the discoverers often died without due honor having been accorded them. Their sacrifice and research had brought medicine from chaos and sorcery and established it upon a scientific basis, from which modern medicine has so rapidly progressed, until now it has achieved more for the world than all other human agencies combined.

At the dawn of the seventeenth century the teachings of physiology, anatomy and other branches were very limited and often incorrect; it was left to William Harvey to discover the true and complete circulation of the blood through the body. During the remaining part of the century, investigations in anatomy and physiology, made rapid progress; therapeutics made some very important gains; the most notable being the discovery of the effects of cinchona in malaria.

The discovery of this agent brought a new era in drug therapy, and its great value to malarial infected districts can never be estimated.

During the eighteenth century many important discoveries were made in all branches of medicine. Surgery had required considerable skill but the results were very unsatisfactory. Vaccination, though known to the ancients, received prominence and practical application through Doctor Jenner. Small-pox, which up to this time had been one of the most fatal and prevalent of all diseases,

*Read before the Muhlenbach Hill Medical Society.

has, through the influence of vaccination, been shorn of its virulence and is fast becoming a disease of the past.

The first quarter of the nineteenth century saw no great change or discoveries in medicine beyond a steady advance; but about the middle of this century came the announcement of the germ theory of disease; and in connection with this we might mention the names of Pasteur, Virchow, Klebs and Koch as pioneers in this important discovery.

Acting upon this theory, other important discoveries were made and the views were changed as to the origin and cause of many diseases. The mosquito was found to be the carrier of malaria and yellow fever; the flea from the rat and ground squirrel, the disseminator of the bubonic plague germ; the house-fly, unfiltered water and unsterilized milk were found to be bearers of typhoid, dysentery and other diseases.

Many other agents conveying disease germs have been discovered, and acting upon this knowledge, in destroying the germ, and in other ways preventing the infection from reaching the body, preventive medicine has come to be one of the greatest boons of science to humanity.

Close on the advent of the germ infection theory came the cell theory of growth and repair, upon which cell building therapy has been based. In this Golden Age of discovery, was added the happy discovery of chloroform and ether anesthesia, the priceless balm of surgery. Later came the discovery of other anesthetics, both local and general. Operations that hitherto were too severe to be even considered, could now be performed free from pain and shock.

Emanating from the germ theory of septic infection, followed the discovery of antiseptics. With the advent of antiseptics and anesthesia a glorious and triumphant era had dawned upon the field of surgery. Infections following the surgeon's blade and septic and gangrenous wounds rapidly disappeared; till now, septic infection following an operation, has come to be looked upon as a reflection on the precaution of the surgeon and the care of the nurse.

We can understand better what a great revolution antiseptic surgery has brought, when we go back a little longer than a quarter of a century ago and see the conditions that existed in the wards of hospitals; every wound both minor and major, were bathed in germ laden pus; blood poison, gangrene, erysipelas and that most dreaded complication, lock jaw, were common sights. In compound fracture two out of every three succumbed to the ever present infection.

With the growing confidence in antiseptic and disinfectant measures, came increased

skill in surgery. Parts and organs of the body that had hitherto been considered 'forbidden ground' to surgery are now explored with marvelous results. Persons through disease or injury, losing the function of their air passage, are now caused to breathe the breath of life through a silver tube; organs in one body are replaced with those from another, and even the heart, that sacred seat of life, whose action it was thought would cease at the mere prick of a pin, is now approached with the surgeon's knife without fear or disaster.

The once frightful death from hemorrhage is now rarely known in surgery; in fact, as sepsis after operations reflects on the surgeon's cleanliness, so a death under ordinary circumstances, may reflect on his professional skill.

The great change wrought in army conditions in the last few years, through disinfecting measures and antiseptic surgery has been a glorious achievement. The saving of life and suffering through these measures, viewed from a quarter of a century back, would approach the miraculous, and greater results will yet be achieved.

During the Civil war between the North and the South, scores of our braves fell victims to disease and septic wounds to one in battle; in the Spanish-American war, fourteen succumbed to disease to one on the battlefield; in the Boer war the battle casualties of the English, were as one to ten lost from disease, and in the late Russo-Japanese conflict, where a larger and better surgical corps was provided, the loss on the firing line was four, to one who died from disease.

No less marvelous, than the achievements of antiseptic surgery, have been the accomplishments of public sanitation based on previously mentioned discoveries. With a knowledge of the origin, and in many instances, of the conveyers of disease, preventive measures have been adopted that have borne results of worth untold, and such as would have astonished, even the gods, of the ancient Greeks.

Infectious diseases and the consequent suffering, throughout the cities of the world, have been reduced one-fourth, some one-half and in other instances almost exterminated; the death rate thereby being lowered to nearly the same extent. In the country districts, especially throughout the tropical regions, the results accomplished have been no less amazing.

Conditions in many regions that were formerly reeking with infection of malaria, typhoid, typhus, dysentery, yellow fever or visited by the bubonic plague, claiming as their victims nearly every immigrant, who would dare to approach their bounds, and at times almost depopulating large sections of country,

have been revolutionized by modern medical science. Their waters have been made to sparkle pure and clear and their wilderness places to "blossom as the rose."

Most everyone conversant with recent history knows, at least in part, what a wonderful work was wrought in Cuba and its principal towns under the direction of Doctor Wood, Doctor Reed and others; and what was accomplished here was, perhaps, more than duplicated by Doctor Cruz in Bahai, Rio de Janeiro and Santos.

In applying the same measures to the Canal Zone results have been accomplished beyond the dream of the most sanguine; the construction has been made practicable for the most gigantic enterprise ever accomplished by a civilized nation.

After the Government had spent millions of dollars preparatory to this great work of construction, health conditions proved so disastrous that abandonment was seriously considered. At this crucial moment modern scientific medicine under the direction of Doctor Gorgas, that brilliant captain of sanitation, intervened and saved defeat. When this "Eighth Wonder of the World" is completed it will be an unexcelled and everlasting monument to medical achievement.

Through the achievements of medicine this boasted "Land of the Free" has gained its greatest freedom. Diseases that man was once a slave to, and claimed their victims by the thousands, now are under his control. Pasteur, that modern genius of medical discovery, has said, "It is possible to eradicate every infectious and contagious disease from our land." The possibility of this assertion is being yearly confirmed in mortality statistics.

While the preceding enumeration of the achievements of modern medicine may, to the uninformed, seem a "Utopian" tale, yet the future for serum therapy, in its sphere, is no less promising. The antitoxine treatment of diphtheria has already been proven to be a specific of great value. If immunizing serum could be promptly administered to every case exposed to this contagion, the development of no less than ninety per cent. could be prevented; and when the serum can be administered in sufficient dose, nearly every case is promptly relieved. We can obtain some idea of what has been accomplished in the treatment of this disease by comparing the mortality under the old methods of treatment, which was sixty per cent. and often more, to the mortality of to-day, which is less than fifteen.

Serum therapy has been used with more or less good results in typhoid, pneumonia, septicemia, tetanus, tuberculosis, erysipelas, rabies, rheumatism and meningitis. Experimentations on the serum treatment of these

and other diseases, are being studiously and progressively pursued, and it is reasonably hoped that in a short time the results will be as successful in these maladies as in diphtheria.

Other agents have been utilized and made to serve useful purposes in the realm of medicine; electricity has been made to perform some remarkable feats and has come to be a valuable aid to medical diagnosis; light, air, water and heat have been found to possess elements wonderful in their economy and invaluable in their aid to modern medicine. In fact, so liberal and so broad, has nature been in her distributions, that the scope of scientific medicine facilities extend from the sunlit skies to the earth's dark interior.

Medicine, though sometimes said to not be an exact science, has achieved more for man than any other science; it conserves life and health, man's most valued possessions. Let us note some of the recent effects along this line; in the last century London has lowered her death rate, per year, from forty per one thousand inhabitants, to fifteen at the present time; Berlin from thirty-three in 1875, to sixteen in 1904; Munich, from forty-one in 1871, to eighteen in 1906. Havana, from one hundred and three a century ago, to twenty at the present time, and New York, from twenty-five in 1890, to sixteen in 1910. As the result of the achievements herein enumerated, the average life of the inhabitants of different countries has been lengthened from ten to twenty-five years, the greatest being that of Prussia, where scientific medicine is most progressive.

It is estimated that the average value of each person saved from a premature death is \$1,700; then, if through the influence of medicine, the death rate, per one thousand, in the United States, has been reduced from twenty-five to sixteen, or a saving of thirty-six per cent., five hundred and five thousand people annually saved from death would represent a value of \$909,000,000.

The saving in the conservation of health is also a big item; the estimated cost of illness, and loss of wages in the United States amounts annually to \$960,000,000; if medical measures have prevented, even twenty per cent of illness, it would represent a saving of nearly \$200,000,000.

We have estimated the monetary value of the prolongation of life and the conservation of health, but who can estimate or scarcely imagine, what it means for the thousands who are annually saved from disease and death and the consequent pain and sorrow.

Scientific medicine has gained the confidence of the learned, the rich and the poor. Its healing balm is equally bestowed in the mansions of the great and in the hut of the

lowly. When man is being born from his mother's womb, to first breathe the breath of life, as a helpless babe, there you will find the comforting and helpful influence of medicine to soothe the mother's pain, the sting of Eve's transgression, and to help the offspring to a safe delivery into its new realm. Countless of thousands of mothers and their cherished babes have been saved to the world and their loved ones through the skill and care of their faithful accoucheur. Had it not been for the skill of the surgeon the pages of history would have never been adorned with the mighty exploits of a Julius Caesar.

Through the care of modern medicine, thousands of children have been permitted to walk in the light and fill a useful sphere, where, hitherto, they would have groped their way in darkness and have lived a misery to themselves and a burden to their friends. Go to the remotest bounds of the earth, wherever civilized man and commerce are found and there you will find the influence of modern medicine has paved the way for his habitation and guards his most sacred interests.

In the land of the heathen, where the missionary has fallen victim to the appetite of the cannibal, the influence of medicine is leading the way and opening up the field to the spread of the Gospel to "all the world."

Lastly, when man in old age or through the disobedience of the laws of health, is brought low and tosses upon his dying couch, again the ever ready hand of the God-missioned disciple of medicine is there, to soothe his agonizing pains and to reconcile him to life's inevitable change.

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Inoculation of Tubercle Bacilli in Sacs.—Heymans has obtained encouraging results in his experimental inoculation of rabbits with killed tubercle bacilli in sacs introduced into the peritoneum. The sacs are made from a membrane obtained from reeds, and hold 1 gm. of the bacilli bodies. Substances dialyze through the sac and set up an action which immunized the animals in his experiments. He thinks this method of preventive and curative immunization is superior in many ways to all other techniques to date. It may prove useful in vaccination against typhoid as it permits the introduction in the most harmless way of large amounts of killed bacilli. The reed sacs are less porous than collodion sacs, and are preferable for several other reasons.

LOBAR PNEUMONIA.*

By J. W. ACTON, Glasgow.

An acute infectious inflammatory disease of the lungs characterized by chills and fever and a fibrinous exudate, and generally terminating by crisis in five to nine days.

ETIOLOGY.

Predisposing causes, exposure to cold and dampness, alcoholism, over-crowding in poorly ventilated rooms and anything that lowers the vitality.

Direct cause, the diplococcus of Frankel.

MORBID ANATOMY.

The lung presents three stages in croupous pneumonia, congestion or engorgement, red hepatization and gray hepatization. The right lung is more often affected than the left. In the first stage, or stage of congestion, we frequently have restricted movement of the affected side, and increased movement of the sound side. This part of the lung is redder and heavier than normal.

The second stage is the stage of red hepatization or solidification, and generally lasts four or five days and furnishes unmistakable signs. In this stage the lung tissue is solid and firm and airless. The third stage, or stage of gray hepatization or resolution, lasts from three to ten days, in this stage the lung is a grayish white color, is softer and more moist than in the second stage. There is nearly always some involvement of the pleura over the affected side or part of the lung.

The incubation period is generally very short. Perhaps we have no other disease so invariably ushered in by a chill as in croupous pneumonia. The chill may be the first symptom, or we may have slight catarrhal symptoms for a day or two with headache. Following the chill the fever rises almost immediately to from 103 to 105 degrees F. There is generally a distinct flush on the cheek, frequently more on the affected side.

The pulse is full and strong, heating from 100 to 130 per minute, and resisting pressure. There is generally pain in the side, if the pleura is involved the pain is sharp. There is great thirst. The urine is scant and high colored and may contain albumin. The respirations are increased in frequency and with this we have a dry, hard cough which is frequently restrained on account of the pain it causes. The patient lies on the affected side. The skin is hot and dry and on percussion there may be but a slight impairment of resonance, on early auscultation the vesicular murmur may be very feeble, but very soon we hear the distinct crepitant rale at the end of inspiration.

There is exaggerated vesicular breathing

*Read before the Barren County Medical Society.

over the normal lung. All these physical signs may not be detected, especially if we have a deep-seated or central pneumonia. In the second stage all the signs obtained on inspection in the first stage are intensified, the breathing is markedly abnormal, hurried and often accompanied with an expiratory grunt. The alae nasi dilate with each inspiration. The skin continues hot and dry and the pulse frequent. Movement is much less on the affected side and may look larger, if the lower lobe is involved the apex of the affected side may show greater movement. Percussion will give absolute flatness over solidified area.

Auscultation gives high pitched bronchial breathing over solidified lung. Usually have herpes on lips or nose. Eyes bright anxious expression, frequent short cough which causes considerable pain. Expectoration is blood-tinged and very tough. The heart sounds are heard very distinctly over the consolidated lung, while lingering crepitant rales may be heard.

In the third stage to inspection, palpation and auscultation, the phenomena of the first stage is largely repeated. The sudden drop of the fever known as the crisis is one of the most characteristic features of the disease, followed, many times, by dreaching perspiration, this is followed by refreshing sleep. Resonance is generally impaired for some time, the breathing gradually returns to normal. The skin is not so hot, the crepitant rale returns known as the "crepitans redux" and is finally replaced by normal vesicular breathing, by which time the dullness has disappeared. The convalescence is generally rapid.

Lobar pneumonia may terminate in abscess, gangrene or phthisis pulmonalis. In this case the symptoms of the second stage continue, the fever does not fall, and in case of abscess have expectoration of pus and gangrene a very disagreeable odor.

There may be modifications of the foregoing symptoms. The chill may be absent in which case the symptoms arise more gradually.

The temperature in old persons and drunkards may not be so high while in children it may be higher, the same is true of the respirations. The pain, cough and expectoration may be absent in old people, the pulse may be feeble and rapid instead of full and strong. The physical signs are sometimes delayed from one to three days in old people. According to some authors we may have an afebrile pneumonia, although I have never seen one.

DIAGNOSIS.

The diagnosis of a typical case of pneu-

monia is generally easy. The chill, high fever, hacking cough with the physical signs, are easily recognized as a rule. It is the atypical cases that give us trouble many times. Lobar pneumonia may be confounded with phthisis pulmonalis, pulmonary congestion, plenrisy, meningitis, etc. Pleurisy is the disease we most frequently have to distinguish from pneumonia. The crepitant rale of pneumonia and the friction sound of pleurisy often resemble very closely. Very valuable in diagnosis is the vocal tactile fremitus which is increased in pneumonia and diminished in pleurisy.

The exploring needle may be of great service. Blood cultures are the most positive means of diagnosis, the absence of leukocytosis speaks strongly against pneumonia.

PROGNOSIS.

Always be guarded in your prognosis of pneumonia. It is a very treacherous disease. It is about as fatal as any of the acute infectious of adults in temperate climates, always worse in crowded places. Very fatal to drunkards and those of intemperate habits. The more lung involved the more serious the attack. Death is usually caused by heart failure caused by over-distention of the right heart or it may be caused by the direct effect of the toxin on the heart and nervous system. The mortality should not exceed 15 to 20 per cent.

TREATMENT.

I know of no specific for pneumonia. Each case is a law unto itself. It is the individual not the disease that needs treatment. If possible, select a large sunny room where perfect quietness can be maintained. Have an abundance of fresh air regardless of the kind of weather, of course avoid draughts. Fresh air stimulates the heart and respirations, quiets restlessness and promotes sleep. Keep the room at an even temperature and not above 65 degrees F. Have as much light as is comfortable to the patient. Visitors and unnecessary attendants should be excluded. The diet should be easily digested, and nutritious.

I give milk, raw eggs, beef juice, ice cream, the juice of lemon, orange or grape, be sure to give patient plenty of water also give cracked ice. In the first stage and early part of second in full-blooded persons with full bounding pulse, cough, great dyspnoea and sharp pleuritic pain and later when there is engorgement of the right heart, bleeding relieves these symptoms and is thought to hasten the crisis. With those who are not so robust use acetonite. I nearly always give calomel at the beginning and follow with salines when needed. For the high fever I prefer sponging as often as is necessary to con-

trol the fever. If fever is not so high patient should be sponged as least once a day with tepid water. Keep mouth and gums clean.

For the severe pain, I know of nothing better than morphine hypodermatically. Dover's powder in 3 to 5 grain doses frequently acts well. May give liq. ammonia acetate. As an expectorant I prefer the carbonate of ammonia in 5 to 10 gr. doses, frequently repeated. I have never thought I got any benefit from digitalis. I have tried ponltices and antiphlogistine but don't think much of them. I frequently employ counter-irritation by means of a mustard plaster, also the use of an ice bag or ice-cold application to the affected side is very highly recommended by some, and I have used it in a few cases and was very favorably impressed with it.

As a stimulant at the crisis, I prefer strychnine and digitaline. For the profuse sweating I know of nothing better than atropine. Complications will have to be met as they arise. The important thing is to watch the heart and circulation and see that your patient gets plenty of fresh air and nourishment. I notice some quite flattering claims from creasotal. It is claimed by some to be as near a specific as we have. I have had no experience with creasotal, the serum treatment and quinine and urea hydrochloride.

FORCEFUL ADDRESS OF WELCOME TO THE ANNUAL SCHOOL OF COUNTY AND CITY HEALTH OFFICERS.*

By HON. MUR WEISSINGER, Louisville,
JUDGE OF THE JEFFERSON COUNTY COURT.

I want to thank and congratulate the Executive Committee of the State Board of Health in their selection of this City for the meeting which has begun to-day. It is fitting that the County which has been the most progressive in matters relating to hygiene should be selected for this great honor, and that in the metropolis of this State, this initial movement, which has for its purpose the benefit of the citizenship of Kentucky by educational methods, should be inaugurated. There is not a person present in this assembly who will not go down in history as one of those who contributed to one of the greatest movements that has ever been started in this good old State. I have included in that statement as you observe, not only every county health officer, but every person present, for I say to you that whatever the purpose of the public official, whatever energy he may put into his labors, though he toil from the rising

to the setting sun, though he bring to his work that enthusiasm which only a man wrapped up in it can, nevertheless, he needs the encouragement and the endorsement of the representative citizenship of his community. The commendation of his fellow man will buoy up his spirits when they begin to droop. I say to you, the public, that you must oversee the work of these officials, that you must not criticise their endeavors unless you have investigated the facts and that you must only come to a conclusion after you have given the matter serious and honest consideration. The acts of public officials should be observed with a critic's eye, but an unfair judgment of him by his constituents will do much to destroy the enthusiast and will produce a mere automaton. On several occasions I have publicly insisted that the one thing most necessary for success is the cooperation of all the charitable organizations and of the people of the community with the public officials. If these gentlemen here who represent the various counties of this State, and I believe that nearly every county of the 120 is represented, will be backed up in their endeavors by their constituents, then the good that will be accomplished by them will astonish you. Let not carking critics, who take no interest in humanity except to criticise adversely those who are trying to correct the evils which have so long existed, and who fail to see the good that these officials accomplish, and who seize upon the few mistakes which the official may make and point to them as proof of his incapacity, mould public sentiment. These critics constitute that portion of the community which is willing to let things be to-day the same as yesterday; who have no desire for improvement but are willing, because their father, grandfather and great-grandfather did a certain thing in a certain way, to do likewise. These are what to-day are called reactionaries, but this is not a reactionary period, this is the age of progress and the man who hopes to hold his office to-day, must be a man with progressive ideas.

So to-day this meeting means progress. We are here to-day not to consider so much what has been done but to consider what should be done. It is a lamentable fact that matters of hygiene have not received the attention from the public at large that they have deserved. There have been few men in Kentucky who have made a study of this subject and who have sought to inculcate their ideas in the mind of the public and while the seeds which they have sown have been remarkably fruitful, nevertheless, Kentucky to-day has not taken that place to which its citizenship entitles it. The Ohio river which separates the North from the South also marks the difference between States progressive in hygiene

* Delivered before the first annual meeting of the School of County and City Health Officers, Louisville, July 8, 9 and 10, 1912.

and states which have been heretofore backward in this respect. Across this beautiful river we have three of the most progressive states in the Union. I know more about the State of Indiana than I do of the other two. To-day in Indiana we find this great movement has been rapidly pushed forward. I was particularly impressed with this fact by reading a statement of Dr. Wiley published in the Sunday paper. The Doctor has come out for Wilson and Marshall and gives as his principal reason for his desertion of his life long party, that Governor Marshall of Indiana has stood for these things which will bring about pure food laws and their proper enforcement. He cites a case where the National Government by the use of its great power sought to vitiate the provisions of the State Board of Health of Indiana. Fortunately, however, that attempt failed. Now do not think that I am trying to inject into this meeting any politics, but there is not a man within the sound of my voice who has ever made a study of this subject, who does not know that Dr. Wiley has done more for the enforcement of the pure food laws than any other official who was ever in public office.

If you will pardon me I will point to a few things which Jefferson county has accomplished and mainly through the cooperation of its citizens with its public officials.

Several years ago the Jefferson County Health Officers decided to apply the tuberculin test. Like all things new, there was considerable opposition, but by firmness and that famous tact for which our friend Dr. Smock here is noted, the test was applied, and 25,000 dairy cattle were tested. These cattle for the most part supply the local markets and upon their product the sick, the infirm and the babies depend for their sustenance. This great feat was accomplished with the hearty cooperation of the authorities of the City of Louisville and to-day I point with pride to the fact that there is no city in the world which has purer milk than the metropolis of this State.

Jefferson is keeping abreast of the times and its citizens are beginning to recognize that there is no greater duty which the county owes to its citizens than to take care of their health. A human life is an asset to the community. All measures possible should be taken for its preservation. Applying the acid test of commercialism and treating the matter purely from an economic standpoint, it can be easily demonstrated that time and money expended for this purpose are productive of results which enhance the commercial prosperity of a community. "Cast thy bread upon the waters and thou shalt find it after many days."

In Jefferson county we are fighting the

white man's plague with marked success. Through the aid of the county and other sources a modern hospital for those affected with tuberculosis has been established. It is located nine miles from the City on the top of Waverly Hill. There is nothing about it which repels the patient but there is an air of welcome which immediately makes him feel at home. Aided by the beautiful scenery, pure air and the warmth of the smiles of the attendants the patient soon begins to improve. The inmates of this institution are receiving the tender care of trained officials and so successful has been the treatment that this place is rapidly being known as a mecca for those who are so unfortunate as to be stricken by man's greatest enemy. On the eventful occasion when this institution was dedicated I had the honor to address a splendid audience gathered upon its beautiful grounds. Man likes to prophesy, and among other speakers, I drew certain pictures of the future success of the institution and it is my happiness to tell you that those pictures were only incorrect in so far as they underestimated the good which that noble institution was to accomplish.

For many years this community struggled with a filter plant until it began to be a by-word. If any one desired to express doubt concerning the time when a certain thing would be accomplished, he would remark that it would be finished upon the completion of the filter plant. But to the surprise and no doubt disappointment of carping critics, one morning, water rushed through the faucets clear and pure as any from a limpid stream, and ever since, our people who for years had swallowed the mud of the Ohio river, had even grown to like it and had long since eaten their proverbial peck of dirt, have been imbibing water than which there is none purer and which is furnished at a reasonable rate.

When Louisville was first founded its southern part was full of swamps and ponds. Strangers who visited it wrote concerning it that it was finely located for business, but that it was very unhealthful. The death rate was very high. Since that period rapid progress has been made. Where then were ponds and marshes, now stand stately dwellings, until to-day the old Dutch Ditch is almost a thing of the past. Recognizing the unhealthful condition of portions of the county, the Fiscal Court has undertaken to drain that part of it where swamps now exist. Already it has expended more than \$143,000 for drainage and this year a levy has been made which it is estimated will produce \$47,000, making a total of \$190,000 which will have been expended for drainage purposes at the end of the fiscal year.

You gentlemen are engaged in a noble

work. You are members of a profession, which is possibly the noblest of all, because you are thrown in contact with those who need most the help of others. So many have adorned this profession that it would be impossible in a short time to give their names, but in passing I may mention those of Ephriam McDowell, David W. Yandell and the late lamented Dr. Wm. Bailey, the latter of whom spent the greater part of his life in the special field of preventive medicine in which you gentlemen are especially interested. I am one of those who do not believe in waiting until a man has died before something pleasant is said concerning him and even at the risk of making the gentleman blush whose name I will mention, I will say that there is no man in the State of Kentucky who has done more to promote healthful conditions than our able and distinguished Secretary. To a large extent he has been a pioneer, at times fighting against odds, always with a fixed purpose, sometimes defeated but usually victorious, a man of national prominence, a sworn foe to bacteria is Dr. J. N. McCormack. It is a tribute to his sagacity and to his devotion to suffering humanity that this splendid audience is here to-night.

Louisville has grown to be a great convention city. For years we have extended such cordial hospitality to our visitors that most of them have desired to return. Most of you gentlemen are well acquainted in this city and it is unnecessary for any one to extend you a hand, but if there is a single person who is visiting us who thinks that he needs an invitation to make himself at home, to him I extend my hand and the hands of every other citizen of this community, and say that we bid you welcome, thrice welcome. I will see that the doors of the court house are kept open and that the doors of the jail remain closed.

Believing that your stay in this city will be productive of much good as well as of pleasure, and prophesying that the profit of these meetings as well as the pleasure of attending them will increase from year to year, and hoping that the days will be so happily passed that you will almost account them as riotous merriment, and that when you leave you will say *au revoir* but not good bye, "On with the chance let joy be unconfined."

Embedding of Ovum on Stump of Tube.—Benzel reports a case of this kind, the third on record. They teach the necessity for wedge excision in removing the tube on account of a tubal pregnancy. This alone guarantees against such happenings.

COMPETENT, ALL-TIME, WELL-PAID, LOCAL HEALTH OFFICERS AS AN INVESTMENT.*

By J. N. McCORMACK, Bowling Green.

In 1911, for the first time in the history of Kentucky, under the new Vital Statistics Law, the location, cause and other essential facts in regard to deaths, 30,583 in number, were officially reported, tabulated and permanently recorded. Taking the number of deaths reported from each of eight of the leading common, every-day, domestic pestilences, known to be practically preventable, corrected by voluntary reports from physicians in response to inquiries as to what had occurred in their practice in selected years, careful estimates have been made as to the number of cases of each of these diseases during this year.

USELESS WASTE OF HEALTH AND LIFE FOR AN AVERAGE YEAR.

These returns and estimates indicate that for this particular year, which proved to be an average one, there were 31,086 cases of tuberculosis under treatment, with 5,181 deaths; 15,525 cases and 1,035 deaths from typhoid fever; 5,450 cases and 545 deaths from diphtheria; 22,480 cases and 1,124 deaths from the diarrhoeal diseases of infancy and childhood; 19,624 cases and 840 deaths from dysentery and diarrhoeas in adults; 2,160 cases and 72 deaths from scarlet fever; 31,000 cases of gonorrhoea and 16,250 cases of syphilis. This gives a total of 143,575 cases and 8,797 deaths in one year, which is believed to be fairly typical of what is occurring every year, from these eight preventable forms of sickness. Diseases ought to be important to a family, state or nation exactly in proportion as they cause sickness and deaths and cost money, but this is recognized by few of our people. One case of cholera, yellow fever, bubonic plague, leprosy or other foreign pestilence would cause a panic in any town or county. A small fraction of these 8,797 deaths in a mine or railroad disaster would send a thrill of horror through the nation, as occurred recently when the Titanic went down, but this daily tragedy of sickness and deaths from easily preventable diseases, so common that they are not feared, goes on before the eyes of every community in Kentucky almost without comment.

THE COST OF SICKNESS IN KENTUCKY.

As an economic problem, a phase of sickness seldom thought of by most people, the practical importance of the above facts to our fiscal authorities and people can hardly be overestimated. The estimate of our reporters of an average of \$94 for the medical care, drugs, nursing and loss of time for each case of sick-

*Read before the School for Health Officers, Louisville, July 8, 9, 10, 1912.

ness, certainly a very conservative one, places the total yearly tax upon the people of Kentucky for these eight diseases at \$13,496,050, nearly double the total annual revenue of the State. But the actual loss is far beyond this. It has become the fashion to talk about conservation, limiting the term to farms, forests, water-powers, mines, factories and similar resources having recognized money value. As a matter of fact, men, women and children—people—are the greatest resource we have to conserve, and without people in such health and vigor that they can develop, operate and enjoy the farms, and other things called wealth, they have little more than an abstract value. Prof. Fisher, of Yale, the world's greatest authority upon the subject, tells us that the value of a human life gradually rises from \$90 in the first year, to \$4,200 when in full vigor, remains nearly stationary for a long time and then gradually declines until it becomes negative. He places the average value of lives sacrificed by preventable diseases in this country at \$1,700. Making this the basis of the calculation and applying it to the 8,797 deaths from eight of these diseases last year, gives the sum of \$14,954,900. Adding this to the \$13,496,050 which it costs in various ways to care for those sick of them gives a total loss for the year of \$28,450,950. Enormous as these figures may seem at first sight it is believed that they under-estimate the money saving which is entirely possible every year if all the people of Kentucky could and would observe the laws of health, as now known to the scientific world, in their daily lives. This cost of sickness is just as much a tax upon the people as if paid into the county, municipal and state treasuries, but no benefits are returned from it as is the case more or less with other taxes. It was this economic feature of sickness mainly, the useless and senseless drain upon the material resources and vitality of their respective nations, which induced Gladstone, Disraeli, Bismarck and others of like prominence in public affairs abroad to recognize, and crystallize into laws and governmental policies the truth, that "the care of the public health is the first and highest duty of the statesmen." It will be noted that preventable sickness is discussed here purely as a business matter, no consideration being given to the inconvenience, suffering and sorrow it brings into the homes of the people.

FACTS ABOUT THIS CLASS OF SICKNESS WHICH ALL SHOULD KNOW.

None of these diseases ever occur or spread except from the germ of seed from a previous case. The exact method of spread varies with each disease, but competent physicians understand the conditions and laws under which

they multiply and spread fully as well as the best farmers know how weeds spread. They know, for instance, that if all the expectorated matter and other infectious discharges from every case of tuberculosis now in Kentucky could be disinfected or destroyed and all of them either recover or die, or if all the discharges from the bowels and kidneys from every case of typhoid fever could be thoroughly disinfected before the vessels are emptied, our people would soon be freed from both of these diseases. If the people could be properly instructed, the expense of preventing these diseases would be small compared with what it now costs to have them. The history of twelve years of smallpox in Kentucky, from 1898 to 1910, is another striking example. To say nothing of the distress, suffering and loss of life, it is estimated that this disease cost our people over a million dollars. This seems strange when it is now well known to the scientific world that vaccination is an absolute preventive of smallpox, and that when properly done it is devoid of danger. Vaccination has long been compulsory in Germany and all comply with the law, with the result that for the last reported year there was but one imported case in their 64,000,000 population. The average cost of a successful vaccination for the public is 40 cents, the average expense of caring for a case of smallpox for the public is \$40, and yet in the face of this experience, over 40 per cent. of our people remain unvaccinated, enough in almost every community to spread the disease if a case is brought into it.

WIDESPREAD AND UNREASONING PREJUDICE AGAINST DOCTORS.

Most people are attached to their family physician, but few of them think or speak kindly of other members of the profession. It is but fair to say that this is largely a reflection of the way a majority of the physicians of the old school of the same community spoke of or treated each other. The profession came to recognize the enormity of this evil and the disaster it had brought upon the people, and, in recent years, it has become one of the most harmonious of the vocations. The effect of this change has only reached the more intelligent classes, and while the individual doctor stands high with a few people—his patrons—the profession as a whole remains very low in public esteem. As a matter of fact, ours is the only vocation organized as working systematically against its own interests. In so far as it succeeds in preventing tuberculosis, typhoid fever and similar diseases it diminishes the incomes of its members. This is not idle speculation. The decrease prevalence of these diseases is telling up the yearly income of almost every

practitioner in this country, and yet they persist in educating their patrons and the public in the best methods of prevention. This is because ours is essentially a humanitarian calling, in constant touch with sickness, suffering and death, and that it has been found far easier and safer to prevent than to try to cure these diseases. For much the same reason physicians do more charity every day in every year than all other vocations combined, and never take out a patent on a new remedy or invention. These things explain in part why the average income of the physicians of Kentucky is less than \$800. It is important that the officials and people be informed of these facts that a misconception of the purposes of the profession may not obstruct this most unselfish work.

THE STATE HAS AT LAST DONE ITS FULL PART.

The iterated and reiterated opinion of President Taft, Mr. Roosevelt, Mr. Bryan, Mr. Wilson, leading senators and representatives in congress, educators, the press and others who mold public sentiment, and the emphatic declarations of both national platforms within the last few weeks in favor of a national department of health, show the growth of the movement in recent years. More important to us, our last two General Assemblies did more for the protection of the health and lives of the people than was done by all the others in the history of the State. It created a State Bacteriological Department, open free to every citizen, to assist in the early recognition of the communicable diseases, and to supply sera for their prevention or treatment; a Sanitary Engineering Department to supervise and aid in securing improvement in the water supply and sewerage systems for cities, towns and country homes; a Vital Statistics Department to secure complete returns and the uniform registration of all sickness, births and deaths in every county, and providing ample funds for operating such departments. No less important, provision was made for this annual school, with compulsory attendance, for the practical training of county and city health officers, with expert scientists and demonstrators from other States and the national departments, and our own members and officials, as teachers. That this school may be practical, an effort will soon be made to get the cooperation of the local authorities and make the sanitary conditions of some small city, and types of country homes near it, ideal as to water supply, sewerage, garbage disposal, street cleaning, school house construction and maintenance, dairies, bakeries, markets and the reporting and management of communicable diseases; with the appointments of the country homes complete for the promotion of health, so that the school

may meet there and use these as object lessons.

WHAT COUNTIES AND CITIES MUST DO.

As previous legislation had made the other health machinery almost perfect, upon paper at least, the possibilities for practical life-saving work in any county or community are only limited by the extent to which the local fiscal authorities and people will co-operate in it. For it should be known that even with this advanced legislation and liberality there is little promise in this field in any county or city which does not have a well-trained health officer, who can devote his entire time to the duties of his office. In order to make it easier to bring this about, and in the interest of both efficiency and economy, it is suggested that, except in counties containing cities of the first class, systematic efforts be made to combine the city and county health offices so that both may be held by the same person, having the law amended, if necessary, that this may be done uniformly. It should not be a political office and the tenure should depend upon the betterment of sanitary conditions as shown by a steady decrease in the sick and death rate. As no one can be a health officer of the kind for which I am pleading and practice medicine, the salary should be such as is given to circuit judges and other officials where a high order of capacity and unceasing devotion to duty are required. In fact, it would be just as reasonable to expect judges to support themselves by the practice of law while serving on the bench as to expect health officers to do their far more important and exacting work, requiring the highest order of training, skill and judgment, and practice medicine at the same time. After careful consideration, I would recommend that the salary of the health officer should not be less than \$1,200 in the smaller counties, and that it should be made \$4,200, that paid the circuit judges, in most counties. He should be required to devote his entire time to the duties of his office, and the salary should not begin until he has taken a course and obtained a certificate of his qualifications for public health work, gives his entire time to it, speaking and giving stereopticon and other demonstrations before schools, churches and public audiences until public sentiment is aroused to support the campaign.

Let us no longer deceive ourselves, or permit the people to be deceived about the matter so vital to them. Until we can have a health officer in each county and city so selected and supported that he can afford to fully qualify himself for it, and make the prevention of sickness his life work, most of what this board and the medical profession stand for is but an idle dream in that jurisdiction.

It should be known, too, that all of this is even more important to country people and those of small towns than to the residents of cities. Necessity forces the latter to some observance of the laws of health, and in consequence the preventable sick and death rate is lower with them than with the farmers, who ought to be the healthiest people in the world.

THE DUTY OF THE PUBLIC.

If time permitted, it might be interesting to discuss the elementary question as to whether the individual of the State should do any or all of this work. Between the socialist, who believes the government should do everything, and the individualist who believes it should do nothing, there is every shade of opinion. As usual, the truth lies between these extremes. There is much to be done by the individual citizen, but in the matter of health especially, even if he knew his full duty and did it, there would remain much which must be done under public authority or loss of health and life must result. For, after all, the government is only a great partnership formed to do those things which the individual can not do, or cannot do so well or cheaply, for himself. He can not hire a policeman, own a fire engine, build roads and bridges, or employ capable teachers for his children. Each partner, the citizen, is forbidden to do those things which would be injurious to others, and each pays a certain sum every year, his taxes, with which the government hires done those things that are necessary for the welfare of all, the protection of health and life being among the most important of these, as has been already shown.

THE PROFESSION HELPLESS WITHOUT PUBLIC SUPPORT.*

Can the rank and file of the people of the present generation be so aroused to the importance of this reform that local fiscal officials may be elected for cities, towns and counties who will provide that these benefactions of modern science be brought to every hearthstone? It is said that but one citizen out of every hundred has need for a courthouse except as a place of record for deeds, wills and similar documents, and yet they are taxed heavily to maintain these, with swarms of officials for these and other activities of far less importance than the preservation of health and life. For these and other reasons the intelligence and progressiveness of our fiscal courts and city councils are of far greater importance to the people than the qualifications of governors, congressmen and presidents. These bodies levy all local taxes, disburse the revenues and shape all policies and should be composed of the broadest and most successful business men, and we should go to the commission form of government if

necessary to secure the services of this class.

The medical profession has led this reform from a sense of duty, but is really less concerned in its success than any other class but, so long as the present order of things continues, and public and official sentiment demands that health officers and physicians shall devote their time and energies to the treatment of disease, the existence which is a reproach to our boasted civilization, this annual toll upon health and life must continue, and physicians can do no better than live upon the ignorance and misfortunes of the present generation and try to educate the rising one to better methods of living.

THE PROBLEMS AND DIFFICULTIES OF A HEALTH OFFICER.*

By M. W. STEELE, Corbin.

Many serious problems confront the health officials of to-day, and numerous are the difficulties with which we have to contend.

Chief among the problems for our solution is probably the question of how to arouse the public to cooperative action. It has been said that a lack of accurate knowledge on the part of the public in regard to scientific facts is the leading difficulty which confronts the progress of health work. It seems to me that the general public are very well informed in these matters, but are very indifferent and careless about concerted and proper action, and it must be admitted that some health officials are to some degree indifferent; but as a rule, there is a cause, for which the public is responsible, and which the public can remedy by co-operation and a sincere desire to give the health officer his dues. Therefore, action is what we need—activity on the part of every individual.

The people seem to lose sight of duty in their intense anxiety for individual freedom. In this particular matter the term "duty" implies a great deal to others who may be less assertive. And the public must be educated to respect this most important duty to their neighbors. Thus, while the problem is largely educational, it is not so much a question of scientific knowledge as of doing things and getting things done. The medical profession as a whole must awaken to a keener understanding of its responsibility to preventive medicine. I think that when a man accepts his license to practice medicine in a State that he should at once feel a sense of duty, to a high degree, to all the people where he locates, to do everything in his power to prevent disease. The health officer in the discharge of his duties, striving to prevent dis-

*Read before the School for Health Officers, Louisville, July 8, 9 and 10, 1912.

case, meets with many difficulties of increasing complexity, dealing not only with the material things, but with social and moral influences, and is liable to err through fear of offending some prominent citizen, and the arm which might have been strong for the protection of the public welfare has been crippled.

Prejudice surrounds the health officer, and there is always more or less selfishness with which to combat. Probably sometimes the medical men, through carelessness and professional jealousy, fail to rally to the support of the health authorities, when they are most in need of their support. I admire an unselfish and conscientious doctor even more than one of renowned ability.

To fully awaken the public to a more complete comprehension of their duty, we must insist upon the application of the Golden Rule. Personal interest of the few must be sacrificed for the good of all. A successful health officer must be very sympathetic and conscientious, but firm and determined in matters pertaining to his duty; being careful to do right, but determined to do his duty without partiality in spite of any influence which may be brought to bear. I pity the health officer who has not the necessary courage always present to do his duty, even though it may make him less popular for a time with a few.

The public owes it to us to help us create public sentiment. I fear that a great many ministers and teachers do not fully comprehend clearly the vast importance of the end toward which we are striving. But little progress can be made until we, as a body of co-workers, fully appreciate the relation of all measures to that end.

Tell those who may not know what science has done and is doing, telling it in simple terms, and explain that "science" is only another term for trained and orderly common sense.

The public must be made to think seriously on the cold hard fact, that health is the most important possession within our reach, and that it can be conserved and improved by simple means just as certainly and as accurately as any other asset, and that preventive medicine is by far cheaper than curative medicines. More should be taught in schools along this line, than is usually taught through the common school branch "physiology and hygiene."

One of the difficulties to be overcome is the prevalent idea among the laity that the burden of health work belongs to the medical profession. All the responsibility does not belong to the doctors. Our eager support of measures intended to safeguard humanity is very often misunderstood and misjudged be-

cause their honesty of purpose is questioned, when we indorse methods which, if logically carried out, will diminish our financial resources. I say we, for I am a practitioner, and must depend upon a general practice for my income, and am acting as health officer, for a pittance, as best I can under the circumstances until some better system of executive work can be perfected. I am very enthusiastic for public health protective measures, and I want to urge most strongly the need of special qualifications and the broadest and most thorough training for those who are to be made responsible for their intelligent administration; this done, one great problem will have been solved in preventive medicine.

Public health work has become a specialty which involves the necessity of a knowledge not to be obtained until recent years in medical colleges and universities. One serious difficulty of the health officials in some sections is the lack of power and authority. Those who are to be engaged in health work should be selected on account of their fitness and because they can command confidence. To them should be trusted the formulation of the work they are to execute. Sanitary ordinances should have the approval of the health authorities. If these authorities are not most competent to pass on such legislation they are not competent to serve in their capacity. It is illogical to place individuals in positions of trust and responsibility and to fence them in by suspicion or by inefficient laws, so that the successful carrying out of the work is impeded. "Responsibility without authority is farcical."

I hope to hear an earnest discussion of the problem of how to most easily interest people, of which there are a few in most all localities, who seem to know the danger of disease but who are wholly indifferent to sanitary precautions and are unduly self-conscious. In such cases it is sometimes difficult to apply legal action because of lack of cooperation on the part of court officials in making people do what they don't want to do for their own good. There are many unsolved problems, and therefore, a noble work before us. The prevention of pneumonia is one of the unsolved problems. Can we be idle when 150,000 of our people die every year of this disease. Many of us have accepted the position we hold from a sense of public duty—certainly not for the little compensation there is in it; but in spite of the many unpleasantness I have encountered I feel proud of the opportunity to do good for my fellow man, even though they do not sometimes seem to appreciate it.

The one great difficulty which confronts the active health officers is the lack of sufficient

financial support. Well trained health officers who are so badly needed must command good pay. Stricter laws are needed, the enforcement of which demands means to carry them out. The very poor and afflicted must be better cared for. These difficulties must be overcome, and will be overcome. The public are duty-bound in this matter.

Now that the dissemination of knowledge with respect to public health problems is so vastly important, let us not confine what we say on these matters to this meeting here in Louisville and to the medical press; but let it be heralded through the popular prints, and let us all carry a message to the people to every fireside in our territory if possible. Tell them the humanity and the justice of it all till they fully appreciate it, and our difficulties will be lessened.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By C. W. KAVANAUGH, Lawrenceburg.

Under the existing laws for the protection of the public against the spread of disease, begin the troubles of the health officer. The laws prescribe the duties fully. These include a supervision of all known diseases to which man is heir. To see that the whole face of the earth is clean, and unfit for germ life, that all water streams are unpolluted, that the food he eats is pure and unadulterated, and wholesome, that his whiskey is straight goods, that his cigarettes are free from opium, his quack doctors persecuted, and his patent medicines free from their coveted and potent agents, alcohol and opium. That he shall see that the vital statistic laws are enforced, that he shall have physicians to report to him all acute infectious diseases. There are many other side duties. The last duty I mention gives more trouble and annoyance than all the others. When a physician becomes health officer the war begins on him by the other physicians. They fire the minds of the people against all his orders. Dieredit his opinions. Say that he calls epidemics of scarlatina and nettle-rash, scarlet fever. Epidemics of Cuban itch and chicken-pox, small-pox. Epidemics of poison oak, measles. Epidemics of fits, cerebro-spinal meningitis. Malaria fever, typhoid fever. "Milk fever" puerperal sepsis. Strange to say that this state of things exists in intelligent communities. The first problem to solve is how to do away with this class of physicians.

The next trouble in importance is the salary of the health officer. This in the counties is left to the discretion of a unanimous

fiscal court composed of a political county judge, and over-honest ungristrates, the guardians of the public treasury, destroyers of graft. They regard every cent spent for the protection of the health of the mothers and babies as taken from their opportunity to cover up graft.

Over twenty-five dollars is regarded by these saints as exorbitant and outrageous for the yearly salary of health officer.

The law-making power of the State is actuated by pretty much the same principle as the county courts. They seize upon this as a theme to demagogue the people, aided by some ignorant and antiquated physician.

The last Legislature made itself the laughing stock of the enlightened world, by countenancing the investigation and attack upon the best Health Officer in the United States. He took this office in its infancy, and through trials and troubles, without scarcely any remuneration, raised it to the lofty pinnacle it now occupies. In any other field he could have been at the top.

How can this trouble be remedied, the problem solved? Only by the right kind of support from the profession to our present State Board of Health.

Another trouble of the health officer is the weak support of the secular press. This is the greatest power for good or evil in our land. Still its pages are crammed full of both religious and nonreligious, patent germ killers, preventives, and carping criticism of sanitation and preventive medicine.

Health column departments, full of misleading advice on sanitation and preventive medicine. Magazine articles, the fad of the day, describing to the public new discoveries in medicine, and the application of same.

Exciting and causing erroneous opinions in the minds of the laity and some of the profession, regarding hookworm disease, pellagra, and bubonic plague.

The last difficulty and problem is how to remedy these existing evils. I would suggest a State Department of Medicine, selected by the people, divorced as effectually as religion is from politics.

It seems to me our governors, our congressmen, and educated laymen are more ignorant of the science of medicine than any other class.

Our own "Champ Clark" has furnished the strongest endorsement of Electric Bitters ever given to a quack nostrum.

We shall never get adequate relief from the legislative body till the power of corporate interests and machine politics are banished and the "people rule."

Laws should be drawn up by educated persons, and those versed in the subject legislated upon.

*Read before the School for Health Officers, Louisville, July 8 and 10, 1912.

I believe in Germany all laws are formulated by learned professors. We shall never get a perfect medical law, that is slobbered over by the two by four legislative lawyer.

Lastly, you can have no effective law without money. The health officer should be paid a salary commensurate with his duties, and this should be fixed like the salaries of circuit judges of the State and not left to the whims and fancies of ignorant magistrates.

PROBLEMS OF THE HEALTH OFFICER.*

By BEN W. SMOCK, Louisville.

The subject assigned me is a large one, with many phases according to the territory to be covered, whether it be national, state, county, city or town, so I shall attempt to deal with the matter in a general way and hope to be brief and comprehensive.

To begin with, one of the difficulties of health work in a small community is the determination of the specific work to be performed with a limited amount of money. Many health officers complain that they cannot obtain sufficient money from their legislators, fiscal courts and city councils, and hence are handicapped in doing any work. The outcome is that little or nothing is accomplished. The reason for the inactivity is a *lack of appreciation of the duties and opportunity of the office*. The incumbent does not give sufficient study to the work. He does not realize how to produce the results which will be of the greatest good. He should do that work which will not only be of public benefit but of public instruction.

To dabble a little in several branches of the work in the great field of present-day preventive medicine is not the best method to convince the general public that the health office can be, and is, a great good in the community. It is not as convincing to the fiscal authorities as a single line of work pushed to completion. Where but a very small appropriation of money is allowed, the bulk of that money could well be used in a certain piece of work which would be of local importance. This sanitary work is developed as rapidly and completely as possible, with two objects in view: (1) It is the purpose to develop a health effect which will be of great good and of permanence. (2) The work should be of such a character and carried to such completion that the general public and men in authority who make the appropriation, are convinced that good results have been obtained with their money; that the work has been worth the while and the results are perman-

ent, and further, that with a greater amount, this and more effective work could have been produced.

It may be said by some that this is "politics" but it is the only kind of politics which is legitimate in public health work. It is not only done for the good of the community, but as an education of the people and of the fiscal authorities.

This education must of necessity be done simultaneously. If the people's money is used to dig a ditch to drain swampy land it is not sufficient to state that it is a prophylaxis against malaria; but the economic side of the proposition must also be presented to the effect that the digging of the ditch raises the realty value in that neighborhood; it drains dirty water, possibly sewerage (as does one in this county) it eliminates odors; it checks the development of mosquitoes; it kills out insect pests; it makes the screening of houses more effective; it makes the surrounding region more desirable for industry; and for the comfort of the home; it therefore increases the wealth, raises the health, and adds to the general moral uplift of the whole county. It is also a practical, permanent improvement and will cost but little or, nothing to maintain. When the public are told the above with the necessary explanations, they will the better realize that the ditch was well worth while, and the health officer has accomplished good; still all preventive medical work begins in education; that education to become effective should begin with those who may be of the greatest assistance; viz.: doctors, newspaper editors, (especially editorial magazine and newspaper writers) law-makers, teachers, preachers, business men, civic associations and women's clubs. The instructions should not be carried along one line to monotony, but a change of front and a variety of subjects becomes more acceptable and more convincing. For instance, in discussing the cleaning of streets and public roads, the influence of dust arising therefrom as a causative factor in developing tuberculosis becomes monstrously tiresome to the public. They would prefer to know what effect such filth have upon their comfort and household economy—upon their furniture and clothing—upon their milk and food supplies; upon their business and upon their reputation and prosperity.

If the appropriation will permit but an occasional cleaning of each street and road and sprinkling with crude oil, the whole community remains dusty and all suffer alike. If with the same amount of money the principal thoroughfares be kept scrupulously clean all the time, and all dust eliminated, the people can see by contrast with other roads and streets that the health department is effective where it is permitted to work.

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Mrs. Caroline Bartlett Crane, the great woman civic worker, never uttered a truer saying than that "clean houses could not be found on dirty, dusty roads or streets."

If the money granted for a public health office is but little it seems unjust to the public for that money to be hoarded in a bank. Some health officers say that they have only a little money and will conserve it for a while. Bankers are not sanitarians.

Be the amount ever so small, if placed in efficient health measures there is a geometrical increase in dollars and cents, and then will the public invest more substance in their health office, resulting in more benefit to themselves; but this investment will not come unless actual results are obtained. Publish a report of the work done, results accomplished; be the office ever so small. Let it be shown how much of the health officer's time was required to accomplish the work and what so much time is worth to him. It should be shown that had there been more funds appropriated, more results could have been produced. Set forth the future needs of the local community in the order of their importance.

When it comes to dividing up the money outlay of a small health office there should be an allowance made for necessities; such as office rent, postage, stationery, transportation, salaries, etc. There should be set aside a small sum to cover emergencies and to be used in the control of outbreaks of epidemic diseases. It would then seem just to reserve much or all of the balance for developing one or more certain health measures which would be of the greatest benefit. These acts are of more or less local significance and must be determined for each individual community. They may be in reference to water, milk, foods, refuse—garbage, sewerage—street and road cleaning and oiling; various diseases, various industrial conditions or occupations; tenement housing; care of school houses; inspection of school children; care of the babies of the indigent; bettering the conditions of our county asylums, and since statistics are the bookkeeping of successful health work, provision should be made for a correct collection of vital statistics and the other necessary tablets which show the value and result of the special work undertaken.

Perhaps the chief impediment of effective work lies within the health officer. The health officer himself may be as much in fault as are his political backers. The dangers of the office are the political shackles; the hope lies in the ability of the officer to force an escape by measure of judgment—of ability—and absolute honesty and sincerity. Just as long as the office is used for advertisement—and for a living only—so far is the delivery

of the one from the other; when the officer for his meagre pay merely gives the people an opportunity to read his title on his letter-heads, when he waits for an epidemic to gain a foothold before starting work, the public cannot be expected to elevate his office or its salary; for a salary of one hundred dollars, he should do a little over one hundred dollars worth of work. He cannot be expected to devote all his time for such a pittance, but he should *earn what little* is paid him. The public is beginning to consider health work as a business proposition, and he who makes good and earns his salary is the first one to receive a raise. If a man cannot afford to devote the proportionate time which the size of his salary indicates, he cannot afford to hold the office. If he cannot afford to withdraw then he should not and cannot afford to draw the pay without work. Sincerity more than anything else, stamps success. There are many health officers who do remarkably good work; but the few who do not appreciate the importance and opportunity for good which accompany the office are the men who check the elevation of the work.

Frequently much time is lost in some cases due to the appointing power not being personally acquainted with the best man available for the position. It sometimes is a difficult matter to find the right man at the right time, but while search is going on it is often poor policy to let the people suffer and watch for action. This can easily be obviated by choosing an energetic, enthusiastic, skilled man in the city or county, or by accepting one recommended by national, state, medical or other well experienced bodies or authorities. Such appointments could be made temporary, or for a month or two. It is to be understood that the officer selected must of necessity make good. Should he make good, the appointment should be made permanent.

In small scattered communities the idea is not a health officer with a small salary in each city or town making no provision for the intervening country, but a county health officer having jurisdiction over the entire county, including all towns up to a certain limit of population. The officer should be selected by those in a position to judge of his fitness for the position. The tenure of office should be for life and the salary sufficient that all his time may be devoted to the work and that the position will become so desirable that men, good men, will become specially trained for such duties.

It is patent to everyone within the sound of my voice, engaged in this great work of conserving public health, that the key to the whole situation, the solution of the whole problem, is hard work and must be wrought with brain, brawn and money.

SOME OF THE DIFFICULTIES WHICH BESET THE LIFE OF THE COUNTY HEALTH OFFICER.*

By HUGH D. RODMAN, Bardstown.

First: The people, who have never caught on to the benefits of improved sanitation. Everything, with many of them, which is suggested by the medical profession is opposed, on the grounds that it's 'no good, we've always gotten along without this foolishness. Our fathers and grandfathers didn't do these things, and they got on all right, much better than we do now. This fellow thinks because he is health officer he must make himself conspicuous.'"

These and a thousand and one other objections are thrown into the teeth of the county health officer. But let your neighbor build a pig-sty close to your door, or dump the putrefying carcass of a cow within range of your olfactory organs, and within the twinkling of an eye this same chap who has been ridiculing the Board of Health and its health officer, will rush to the nearest telephone and call up the health officer. Some thing like this: "Hello doctor, ain't you the board of health?" To which the doctor answers politely, "Well, no, I am not the board of health, but I am a member of it, what can our board do for you Mr. Jones?" In great excitement he answers: "I just want to tell you that Sam Brown has hauled a big dead steer just across the lane from our front door and it stinks so that we can't eat nor sleep for it, can't you do something to stop the stink?" All at once it dawns on this health officer that just a few days ago this same Mr. Jones was saying everything he could to render the health officer's work useless, but this recollection of his unjust criticism must not now influence his conduct. He must be a courteous and polite gentleman and answer Mr. Jones politely and assure him that he shall have relief.

Let a case or two of small-pox develop in your county, and, oh! what a buzz and a hum among the people; what a cry for the health officer! What's he doing? Why don't he put a guard around this house? Why don't he stop these people from running on the streets? And many other such exclamations.

And if the health board or its health officer does not handle the situation just to suit Tom, Dick and Harry, an indignation meeting is held, a resolution is adopted calling on the State Board of Health to dismiss the county health officer. This much "cussed" man stands meekly by, like the lamb in the slaughter house and witnesses the butcher sharpen

his knife preparatory to the slaughter. When the temperature of the gathering begins to subside and order is restored in the meeting, the health officer exclaims; "Thou fools you know not what you do nor whereof you speak. If you would entertain and express more confidence in your physicians generally, and your health officer especially, who are laboring daily, yea hourly for your well-fare, you would display a greater spirit of gratitude and more practical common sense than by such conduct as this. Your physicians, whether in private or official capacity, are entitled to your confidence and merit your assistance and approval in their efforts to protect you against contagion. Your board of health works gratuitously and its efficiency speaks for itself. Not in thirty years has your board of health, through its health officer, failed to promptly suppress an outbreak of small-pox. Your board's representative is ready, willing, yea anxious to do all that can be done for your safety. Give the health officer and his associates your hearty approval and your active support and you need have no fear. But if you people handicap us at every turn, how can our work succeed.

The second great difficulty, and in my mind gentlemen, the most insurmountable one, is the want of means, the want of money. The time has come when nothing can be accomplished without money. Money! Money, Mr. President sets a-hum all the wheels of machinery; all the power of the world for both good and evil is controlled by money. Money is the moving power of the world, and without it nothing is done which is done, and the county health officer has no money; he is a poor boy, and the fiscal court won't give him any money nor pay his legitimate bills. The fiscal courts in many counties are a drawback to the health officer in the successful performance of his duties. First the salary which is paid many of the county health officers is wholly inadequate. A doctor who has anything to do can not give his best attention to the public good for a mere pittance. In my county, Nelson, which is above the average, both in area and population, the salary is \$150.00. Our fiscal court pays no heed to the recommendations of our board of health; refuses absolutely to pay any bill which is contracted by the health officer unless he has an order from the county judge, made in an open term of court. Our fiscal court gives our board no encouragement and no assistance. I say our board of health instead of our health officer, because our board of health and our health officer are in perfect accord, and act as one man. If the whole people can be made to realize that every act of the county board of health and its executive officer is unselfish, and for the good of the whole people

*Read before the School for Health Officers, Louisville, July 8, 9, 10, 1912.

ple, although at times it may cause some little inconvenience to a few individuals, and the fiscal courts could be educated up to the fact that a little money spent for the protection of the health and lives of our people, is well spent, then and not until then will many of the difficulties which beset the county health officer be removed and his pathway be made more smooth.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By A. V. MENESEE, Williamstown.

Conscious of my inability to deal adequately and comprehensively with a subject of such far-reaching import, of such recognized and supreme interest to the community as the one which has been assigned to me on this occasion, I must confess to no small degree of trepidation in approaching the task.

Professional occupations have left me too little time to arrange my ideas, at best somewhat floating and nebulous, in a systematic or logical form; and I doubt if nature has conferred upon me even a moiety of that literary talent which might lend color and charm to the discussion of so serious a matter.

Circumscribed by the limits of a small town, in a county of less than fourteen thousand inhabitants, and senselessly occupied with the countless details of a general practice, my experience and the trend of my studies have not been such as to enable me to speak either with special knowledge or academic authority upon the problems and difficulties which surround the lot of the modern health officer. Therefore, I shall be content to touch merely upon the fringe of these important questions, soliciting from you in advance all possible indulgence for my shortcomings and whatever patience you can command toward the rude and unpolished expression of my views.

The function of the health officer has grown in dignity and consequence just to the extent that advances have been made in pathology and etiology. The progress and future of hygiene among the people at large depend upon his intelligent activity—upon the knowledge and tact which he brings to the discharge of his official duties. The study of the causes of disease, the formulation of rules for their removal and prevention, being the substance of his obligation to the public, he naturally becomes an indispensable, if an humble exponent of that great science, of preventive medicine, which numbers in its ranks so many illustrious and learned men, and which stands foremost, among the achievements of our

civilization, for the moral uplift of society and the amelioration of human wretchedness, degradation and crime.

The establishment by law of a system for the preservation of health, for the enforcement of cleanliness in municipalities, for the regulation and control of contagious disease, and for the supervision by accredited officers of these conditions, is a vital part of our national and state policy. It would be a singularly unhappy circumstance if we did not, here in Kentucky, keep pace with the best thought and the best endeavor now being expended in the states about us to bring to perfection this noble and beneficent institution.

Speaking of those health officers whose sphere of labor lies measurably in the back eddies of progress, in an environment where they encounter much derision from the mob and little sympathy from those who ought to be most active in furnishing them comfort and aid, I would suggest that they have an infinitely harder task and much more difficult problems to confront than any other class of men engaged in the same kind of work. The rays of encouragement from the law-making body and their reflection by the local authorities have been far too scarce, and the review of their past accomplishments, in many sections at least, can never be of a rosy, or even very helpful character. The work has been going on for some years, under miserable disadvantages and with dreary monotony, though developing now and then remarkable results, and many instances of individual devotion to ideals at the cost of self-sacrifice and hardship. It might have been hoped that by this time, the sun of enlightenment and prosperity would have looked out behind the clouds; but, it must be admitted that all is still rather dark in the direction I have spoken of. It is certainly depressing to observe that, in some counties, otherwise progressive and rich, the chief health officer's salary is fixed at the miserly and pitiful sum of an hundred and fifty dollars per annum, a sum manifestly insufficient to meet his ordinary travelling expenses were he to discharge the duties of his office in proper fashion. And yet the same communities demand an expert's knowledge upon the part of their health officer and judge of his actual performances according to the highest standard of efficiency, although they do not hesitate to deny him a just and reasonable compensation for his services. Money spent upon an undertaking so intimate and essential to the whole body of the people, under wise administration, is indisputably not wasted; it cannot be rightly called extravagance; and no one could truthfully say that the expenditure was inconsistent with the most scrupulous econ-

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only in dealing with the funds raised by taxation.

The tax-payer may insist on economy in other matters, on parsimony if he will; but parsimony here is folly, and if the people of these counties wish to hamper, obstruct and destroy a public enterprise of this character they are blind indeed. As long as they withhold a generous wage from their health officer, they virtually do this very thing; for they can not hope, by following such a course, to secure the services of really capable and scientific men. It is apparent that a physician in general practice, whose living and that of his family must come from his professional labors, would be at great disadvantage in allowing himself to be selected as a health officer on the salary usually provided. Not only would the duties of his office require a very large portion of his time, distracting his attentions from personal business, but the enforcement of sanitary laws being in many instances exceedingly unpopular, he would in all likelihood incur dislike and provoke enmities which might seriously affect his success as a practitioner. If they did not undermine his private fortune. This difficulty renders the present system more or less impracticable, and we can never have a satisfactory administration of our sanitary laws until we affix to the office of the health officer in each county such a salary as will justify him in devoting his whole time to its management. It were better that he should not attempt to do a general practice at all, but rather that he should confine his attention to the study and superintendence of all the cases that are legitimately within the purview of his official duty. The interests of the community lie in the choice of competent health officers and in the fair and liberal treatment of them; the interests of the latter lie in receiving a hire that the labor is worthy of, and the opportunity to do good work under good conditions.

In many localities, especially in those remote from the centers of refinement and learning, there is an almost incredible amount of superstition, bigotry and prejudice against which the health officer has to contend, and for the most part, absolutely in vain. It is amazing to what extent practicing physicians who ought above all others, to co-operate with him, either openly antagonize the health officer, or, by their gross negligence and indifference, hamper and thwart him in all that he undertakes to do. They often omit, sometimes they willfully refuse to report the first case indicating the appearance of contagious disease, and thus leave the officer in ignorance of its existence until many similar cases are developed, or at least until an appalling number of persons have been exposed. Again, epidemics of more or less severity, sudden-

ly break out, because the heads of families fail to make known, and not seldom deliberately conceal, sickness of a contagious nature. There is great difficulty at times in maintaining quarantine of patients in country regions where the people are stubbornly rebellious under this kind of restraint and where police assistance can not always be invoked, or, if on hand, prove to be listless and corrupt. Then, quite a surprising number of people fail to understand the importance of vaccines and antitoxins and grow obstinate in their refusal to submit to them at all. The health officer, forced to assume the responsibility of procuring obedience to these measures of discipline and treatment, is often visited with threats, and even in many cases, with attempts at actual violence.

Another obstacle which continues to vex the country health officer and stand in the way of effective work is the absence in so many counties of an eruptive hospital, ample in size and decently equipped to meet the needs of the community. There are many places where no provision of any sort is made in this direction, and many others where it goes no further than the construction of a small, rude frame building, of meagre dimensions, in some instances, containing only one room. Even these buildings are seldom used, or kept in a state of cleanliness fit for use, the custom not infrequently being to isolate patients suffering from contagious diseases, in their homes, in freight cars, and old out buildings. Upon the termination of the disease or the removal of the patient, such places, owing to their worn roofs and general bad repair, are not susceptible of proper renovation and disinfection, but remain as an eye sore and a possible source of further contagion.

If only moderate care be taken, the general health of a community can be fairly well preserved, but these conditions make it difficult and well-nigh impossible for the health officer to handle epidemic diseases in a satisfactory manner or to stamp out the seeds of contagion with any degree of certainty. The best ideals of method are beyond his reach because he is not supported, as he should be, by the mass of the people, and his enlightened struggle to put in practice the true principle of hygiene and preventive sanitation receives no material encouragement from those who are placed in control of the public purse.

The school-house overshadows every other institution in almost all small communities, and it is here, if anywhere, that the health officer should be allowed to exercise the full and reasonable authority of his office.

He ought to have the time and the opportunity to visit all the schools in the county, to take personal cognizance of the condition of the children as to their health or disease, to

see that they have a chance to breathe pure air, drink pure water, and enjoy cleanliness of body, in surroundings absolutely salubrious and free from the danger of communicable diseases.

The difficulty of ascertaining what pupils are tubercular and of excluding them, when ascertained, from contact with the other children of the school, is a very great one; but it is a matter of vital importance that this should be done, and that every facility should be placed at the command of the health officer for the immediate execution of his duty in this regard. Presupposing competency upon the part of the person intrusted with this work, the rigid application of these rules, based on the careful examination of each school, would, no doubt, greatly lessen the spread of disease, materially reduce the death rate, and vastly improve the average school-child both in point of physical endurance and in the exercise of his mental power. This is a consummation devoutly to be wished for the future, but we can not, so far as concerns many counties of the State, assert that it is an existing fact at present.

There are a multitude of points worth notice in any thoughtful discussion of the difficulties and problems which the health officer must encounter in the prosecution of his public duties—the difficulty and problem of dealing with the continuous depositions of organic matter where there is no water system, of fumigating and cleansing infected quarters, of persuading people to adopt general prophylactic measures, of breaking down the popular delusion concerning quack nostrums and proprietary medicines, of rectifying the filthy habit of expectoration in public places and other careless acts which lead to the propagation of some of the most dangerous forms of ill health and disease, of milk and meat and general food inspection, and of reducing to a strictly scientific basis the whole catalogue of preventive methods in dealing with maladies that can be specially and surely provided against.

It would be impossible to treat of these matters categorically or at any length within the limits of a paper of this description, and they are merely mentioned as indicative of the broadness of the field and the scope of the activity which, even in country districts, call for the exertion of high talent and unflagging energy upon the part of a trained, conscientious and faithful health officer.

The work of the health officer is, in all of its practical aspects, a continued warfare against those conditions of modern society and the negligent carelessness and indifference of so many people which still contribute to the production of zymotic disease and keep alive the morbid principle of contagion and epidemics

in our midst. That town, or county or state which fails to make adequate and just provision in its laws for so necessary and praiseworthy a factor in the preservation of its well-being and wholesome growth, lags lamentably behind the advancing ensigns of our race's humanitarian progress and moral regeneration.

A pleasing feature, in connection with this line of effort, is the recent law providing for a school of systematic instruction which health officers are required to attend. Such a school is much needed and denotes a forward step, but the course might with profit be made longer and no interest could be harmed by the grant of a reasonable allowance in money for time spent in attendance thereon, to health officers where salaries are so small as to render their attendance a personal loss and hardship. It is unnecessary to comment upon the propriety of this measure. The expectation that it will go far towards supplying the average health officer with the special knowledge requisite to the proper performance of his duties, will not be frustrated unless all concerned prove faithless and incapable; and the hope is well-grounded that it will inspire him with a missionary zeal to teach not only the people in general, but the physicians themselves how to prevent and wipe out disease. By public speeches, by newspaper articles, by school-room and church lectures, by the use of timely illustrations in the shape of moving pictures and other things, the health officer could accomplish more direct and lasting good to the human family than any other class of men within my knowledge. In the smallest towns, and in the most remote and ignorant regions, he could, by these means, convert his office which is now all too frequently an empty name and an unprofitable decoration, into one of the crowning glories of local government.

The march of improvement may seem slow; for prejudices, inertia, public indifference, and official jobbery—all entrenched in corrupt politics and sordid intrigue and enforced by the selfish ambitions and cold cynicism of men—are to be combatted, overcome, and demolished. But the outlook is fair, the beneficent promise of health and happiness to society which must arise from the fruitful labors of instructed men in this branch of the public administration will appeal to every thinking person endowed with an atom of imagination. This noble work can not go backward, it must go forward; and if a comparison be made between its present status and what it was only a few years ago, it will be not only seen that a substantial advance has been actually made in all that concerns its improvement and its expanding relation to

humanity, but that a momentum has been acquired in the march which will become more and more irresistible. If the difficulty here and the problem there has been great, if at times the one has appeared insurmountable and the other unsolvable, their final conquest will be all the more honorable and splendid. No prouder mission can any man enter upon than this to serve his fellow-man, to restore them to their original birthright, to health, sanity, a pure environment, and the happiness of well-ordered and beautiful lives—a mission as brave and as holy as that of the crusader who, in olden times, sought to rescue, in the face of famine and death, our Savior's sepulchre from the dominion of the paynim hordes—a mission enlisting him as a soldier of the great army which, employing all the weapons of science and learning, is to-day fighting to emancipate mankind from the thrall of pain and suffering and avoidable disease, and to make of the human body a temple unpolluted and sacred—a fit habitation for the immortal soul.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By J. B. KINNARD, Lancaster.

To aid in the conservation of health, to prevent disease and death, is the sole object of the health officer. The position is one of great responsibility where remuneration is out of proportion to the value of services performed. The pay usually received is in inverse proportion to the difficulties and duties imposed. The importance of the office is not fully recognized by either the profession or the laity. Into the hands of this officer is placed the responsibility of the prevention of epidemics that may devastate whole communities unless checked in their incipency. The failure to perform a duty may invite the spread of infectious and contagious diseases, resulting in numerous deaths and paralysis of business.

In 1873, Lancaster was visited by an epidemic of Asiatic cholera that could have been checked in its incipency had there been a health officer in the county. The disease was epidemic in the United States at the time, and when a man hailing from an infected district was prostrated with diarrhoea and vomiting in our midst the case should have been instantly suspected, isolated and quarantined. No steps were taken to warn the community. Carelessly, thoughtlessly or ignorantly, the dejected were thrown upon the ground, with no attempt at disinfection, where drainage led to a public well which furnished the water

supply to a large area, principally inhabited by negroes. From that case 54 deaths resulted. Business was paralyzed for two months and the city expended about \$5,000.00 for doctors, attendants and supplies for the poor and sick. Had there been a board of health, with an efficient officer, many lives would have been spared and business would not have been disturbed.

Some myopic, misguided communities, when infectious and contagious diseases develop, undertake to disguise the fact that an epidemic is prevalent in order to protect business, forgetting that lives are worth more than filthy lucre. The present greed for gain depreciates human life and exalts the god of Mammon.

Too often physicians fail, or refuse, to report infections and contagious diseases under their care lest they lose practice when such information reaches their clientele. Human lives have been sacrificed on account of such failures. They should realize that it is for the best interest of the attending physician the afflicted family and the community in general that infectious and contagious diseases be reported, investigated, and have proper surveillance.

In the suppression of nuisances, and probable and possible sources of danger to the community, the orders of the health officer are frequently resisted and disobeyed.

When I was appointed health officer many years ago I required notices of complaints of nuisances to be presented to me in writing and my notices requesting abatement were mailed. Now when I issue orders for abatement of nuisances they are delivered to the city marshal for execution. He is an ever present help in locating and abating any kind of nuisance. People pay little attention to a written notice, but when an officer visits them with a mild, but firm admonition, the nuisance is usually promptly abated.

Every man thinks his "right" to life, liberty and the pursuit of happiness" includes the right to do as he pleases regardless of his neighbors. Frequently pig pens and privies are placed in the most suitable location to offend the neighbors, and when attention is called to their dangerous proximity and the disagreeable odors arising therefrom, frequently become offended and resist the enforcement of the law. When the aid of the law is invoked they imagine they are being deprived of their sacred liberties.

In spite of laws against them some people maintain nuisances, but we have been partially successful in educating our citizens to obey sanitary laws and thus protect themselves and the community. The local paper has cheerfully and freely given space to articles upon the necessity of the observance of

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the laws of hygiene and the enforcement of ordinances for the protection of the health of the community. The editors have cooperated with the board of health and the woman's club in urging the necessity of having a clean and healthy city and country.

A problem that has given me anxious thought is the building and caring for cesspools in small cities and towns that have no sewage systems. Where we have water systems without proper sewage cesspools are an absolute necessity. In my town we are having difficulties. We have a city water supply, the plant being owned and operated by the city, without sewage system, and consumers must dispose of waste either by cesspools or by discharging upon the ground. In either case difficulties will be experienced sooner or later. One suit has been instituted against the owner of a hotel in my city where a cesspool was made under the advice and direction of the State Sanitary Engineer, where the seepage, or overflow, was drained into an individual pipe line that discharged into a gutter in front of a restaurant on a back street. The cesspool was constructed upon scientific principles. I think the complaint is ungrounded and will so testify, but juries cannot be depended upon.

Where the limit of indebtedness will not permit some of the smaller cities having water works installing sewage systems the question of private cesspools must be settled in the near future. The pollution of wells and springs will surely follow the general installation of cesspools and damage suits will arise.

Now when a board of health, or a health officer, is consulted in regard to locating and building a cesspool, or anything that may prove a nuisance, will the advice of such board or officer render them liable? Or will the owner have to assume the liability? If the owner shall assume the liability why should he seek advice from the board or officer?

Another problem has been presented to me for solution. Complaints have been frequently filed to abate a nuisance consisting of a temporary pond located in a business section of Lancaster, occupying a position near the intersection of two alleys which divide a block into four sections. Facing the four streets which bound this area are several business houses, a flouring mill, poultry establishment, machine and blacksmith shops, warehouses, a church and several residences with this body of water in the rear of each. How can this mosquito incubator be drained? The elevation of the surrounding territory is too great without an expenditure of a large sum of money, to be drained. Until the Lancaster flouring mill was erected the natural drainage was through a sink hole which was filled and

cemented and now occupies the center of a large pool which was the sole water supply for the mill before water works were installed. For a long time the water flowing into this depression was drained into the pool, but since the storage pool has been abandoned the alley has been raised and the water is disposed of by seepage, but a considerable portion remains to stagnate. I have suggested, and the plan has been endorsed by the State Sanitary Engineer, that a cesspool be constructed at, or near, the lowest point of this depression and covered by iron grating to screen the debris. By excavating a few feet in depth a crevice in the underlying strata may be encountered that may quickly dispose of the sewage. Shall abutting owners pay for the improvement or shall the city do the work?

In this short paper I have presented a few of the problems and difficulties that have been met—some solved, some awaiting solution. In the future there will arise many difficult problems to solve and good judgment must be used by the health officer in their solution and disposition. This is the prophylactic age when an ounce of prevention is worth a ton of cure.

OBSTACLES AND DIFFICULTIES OF HEALTH OFFICERS.*

By J. G. FOLEY, Pineville.

These are many and varied, possibly the greatest one is, the lack of proper support, both moral and financial, neither the county authorities nor the people at large have hardly a conception of what is necessary or what should be appreciated for the support of a health officer in order to carry out only a limited sanitary move, and more especially in a county like Bell, where the county has never paid a dollar for the support of a county health officer or county board of health; yet they have paid thousands of dollars that might have been saved if they had had the right kind of a man for a health officer, and properly supported him, the moral support is equally as bad if not worse than the financial.

It is hard to make the majority of the people believe that a great many diseases are both contagious and preventable diseases, they still adhere to the old belief that they are hereditary conditions only, and I am sorry to say a few, and a few only thank goodness, of the medical profession still hang on to that old theory, just as they do that seven year itch can't be cured or stopped in less time than seven years; unless the poor devil who happens to have it dies, because it is seven year itch. They firmly believe if a

*Read before the school for the Health Officers, Louisville July 8, 9, 10, 1912.

father, mother, or other relative should die of tuberculosis, and a whole family of children become infected and die with the disease that would be perfectly natural and right, just as much so as for them to have blue, black, or brown eyes, or red, black, or brown hair, because a father, mother, or some relative had this particular color of eyes, or hair.

According to his actual size the common house fly is possibly the biggest and most difficult creature we have to deal with, he is like the poor, he is with us every year, his prevention and destruction is a matter of great importance, and yet the masses of the people pay but little attention to him in fact some think him a necessity, as he acts as a bureau of information, they can always tell when it is going to rain by increased number in the house and their tendency to hang on and bite just before a hard storm of rain, they too can tell as to the freshness of the milk and butter, as to whether or not the vegetables are nice and fresh, he does many other things too, but this is enough possibly to put some people to thinking.

Another obstacle is the indifference or lack of interest on the part of corporations and companies, this is especially so in milling and mining districts, where a large number of men are working, with but little or no attention given to sanitary conditions, with poor houses, defective and unsanitary closets and a polluted water supply.

The owner and controllers of such corporations and companies in a majority of cases are capitalists who live and spend their time in some summer or winter resort and make a demand on the local man in charge to show up why every day does not produce a profit on the investment, making no demands or paying no attention to the sanitary condition in which the laborers who have to produce this product live, or the kind of food on which they have to live. The health officer is expected to look after and right all these conditions, as that is his business.

DUTIES OF A HEALTH OFFICER.*

By J. W. KINCAID, Catlettsburg.

The key-note which will solve the larger part of the difficulties of the health officer has been sounded so often and so strongly by the various speakers of this conference that if it has not been caught by each one here, surely evidences the fact that he is out of harmony with the music of the march of progress, which has gained such momentum as a result of this meeting that it will go on with ceaseless tread until our State has gained the posi-

tion in health affairs which has been the dream and hope of that master mind of tireless energy and zeal, Dr. J. N. McCormack.

The key-notes are energy, enthusiasm and education.

Problems will be solved by the energy and enthusiasm of the health officer and the difficulties will be overcome by the education of the public and the cooperation furnished by it when informed and taught what they have to expect of an efficient health officer and what he has a right to demand of it. Until this education becomes general the health officer is confronted by a serious problem. How to do \$2,000 worth of work for \$100 or \$200.

Unless he has inherited a competency or married a woman with an ample dowry he is compelled to shut his eyes to conditions or view with complacency the situation while attempting to make a living from his profession.

When the State Board of Health was created, about the only reasons advanced for its existence was the fear of the horrible ravages of smallpox and that pestilential scourge yellow fever.

The money appropriated for the use of the board was pitifully small and inadequate, but in spite of the handicap of the lack of funds (which was due as much to the lack of knowledge and information, of the immense and incalculable benefits which would accrue from an intelligent campaign for better sanitary and hygienic conditions throughout the State) the work grew larger and larger, until now its purpose is not so much to control the spread of contagious diseases, as it is to make it impossible for them to exist, by a careful and constant watchfulness over the causes which make their existence possible.

To this end it has adopted various rules and regulations, which it is expected the various county boards will also adopt, and through their instrumentality and efforts render effective.

It might well be compared to the strategy board of an army, and the county boards to the army itself, and if its plan of battle (or warfare it were better called, because a battle means but one conflict, whereas their mission is to wage an unremitting crusade against everything which is detrimental to the public health) is to be carried out and forced vigorously to a successful issue, it must be entrusted to a *rank and file* whose courage, energy and valor will know no obstacles it can not conquer.

Hence it can readily be seen that the county boards of health, may become the strongest part of the machinery of the State Board and the county health officer being the executive of the county board, his duties can be as heavy or as light as his conscience and his activities

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may make them. Laws which run contrary to the spirit and the inclination of the public are difficult of enforcement, and any law which curtails personal liberty is regarded by the individual affected as an infringement upon his rights. Hence, quarantine regulations, because of their irksomeness, are regarded with disapproval or disregarded entirely. To be effective they must be thorough, as the slightest break or laxity, may render everything negatory as does the smallest slip in the aseptic technique of the surgeon.

At this point comes in one of the difficulties of the health officer in making those concerned see the dangers of spreading a contagious disease. When you have convinced the parent of a child sick with diphtheria or scarlet fever that there has been carelessness, indifference or negligence upon the part of someone by reason of which their child is afflicted, and impress upon them their moral obligation to assist in the prevention of the further spread of the malady, there is seldom any necessity of invoking the penalties for violation of the legal obligation.

In several years' service as health officer I have but once found it necessary to institute prosecution for violation of quarantine.

Nor have I ever found it necessary to hire guards to make its enforcement effective even in cases of smallpox, relying as much upon the sense of moral obligation, as upon the fear of legal prosecution.

The greatest difficulty to be overcome by the health officer in his work is the ignorance and indifference of so many people along sanitary lines. If he is alert to his opportunities, in his daily walk, to do missionary and educational work, by preaching the gospel of cleanliness and citing the various rules of the State Board of Health as applicable to specific instances coming under his notice the general public soon begins to cooperate with him in his efforts, and while his work may grow heavier, it is accomplished with much less friction.

It was a common practice in Boyd county a few years ago to dispose of dead animals by hauling them out to some hollow not far removed from a county road which by long usage was called "bone yard hollow" and leave them there unburied, to become not only a stench in the nostrils of every one passing within a half mile of the spot but also a veritable centre of disease. If any objections were made it was only to the smell and not to the more obvious dangers of disease.

One nuisance noticed by our board requiring the offender to bury the half decayed body of an animal so placed, and the adoption of a stringent rule covering such offenses has completely eliminated the trouble.

It seems to me that there is an unnecessary

amount of work placed upon the health officers in the abatement of nuisances. The law should be so framed that when in his judgment a nuisance exists the health officer could serve a notice of abatement which would hold good if prosecution became necessary, without having to convene his board to so declare it.

The amendment enacted a few years ago making the county judge a member of the county board of health and having the fiscal court elect one member was one of the wisest things ever done. It has largely eliminated the difficulties and friction in the effective handling of smallpox and other outbreaks, and enables a tactful health officer to secure the material cooperation of the fiscal authorities in carrying out the reforms and innovations which in the light of modern knowledge are so necessary.

PROBLEMS AND DIFFICULTIES OF A COUNTY HEALTH OFFICER.*

By WALTER BYRNE, Russellville.

A physician is never more worthy the name than when he charms away a pain at a moment when it tortures most. It is then that he emphasizes most strongly the very indispensable nature of his calling. But in the consciousness of duty well done, let him not forget that his fullest service does not begin and end in the mere administration of the soothing dose.

Now when a health officer everts some threatened epidemic or by timely advice as regards the sanitary condition of some country school saves the eyes of more than a score of these helpless little innocents thereby saving them from a condition (total blindness) that is far worse than death, that the greatness of his calling dawns upon him and he stands like "a Colossus bestriding the world." If ever a man feels like a demi-god surely it would be after a duty well done and the good fight won against the evils of stupendous ignorance.

So gentlemen you see that something can be gained besides the meager pittance of a salary mostly allowed a county health officer. One of the greatest problems that faces the health officer to solve is how to get at the general public and interest them in their own betterment. The greatest difficulty that faces the health officer is "ignorance." How then are we, as health officers, to do these things? "The cleansing of the Augean stables" sinks into a small and insignificant task, when compared with the task of making the public believe that doctors, really and truly, want disease abated and stopped. The

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general public says "it's agin natur" to believe any such thing. Why, how will "doe" live if folks don't get sick? Where will "doe" get his good clothes and horses and automobiles and things? No sree; you can't fool your uncle Rube that away. But in spite of all this we are progressing and we must buckle on our armor and go after them again and again. Make it your business to talk with the school teachers, the ministers, the old ladies, the newspaper men, and the politicians, you will find the teachers ready and willing to aid you; the ministers will do their part, and the old ladies, God bless them, will aid you more than all the rest if you can hit them at the psychological moment. Because you fail to see results at once, do not despair, be assured that much good will come from your sowing.

Only a few months ago at one of our county meetings I talked to one of our old doctors, and he told me of the many sanitary changes wrought in the past twenty years in his community. How even the negroes were learning to dispose of the sputum in tuberculosis and other excrements in times of sickness. Truly the world does move. The ignorant whites are our most trying proposition; they are suspicious and envious and without ambition, satisfied with their lot in life, and jealous of their rights. Any interest you may show in their betterment excites suspicion; any attempt to coerce them into following out sanitary laws meets with stubborn resistance and open rebellion.

These, gentlemen, are some of the problems and difficulties that every health officer meets. Now, how to meet them and consider them.

Go with cheery word and kindly deed, in and out, among these people, telling them of the great and positive good done by sanitary experts in the army, in the city, and everywhere they go. Urge the medical fraternity to talk sanitation in every house they enter. Buttonhole your friends, the lawyers, the ministers, the merchants, the railroaders, "the butcher, the baker, the candlestick maker," and everybody, and talk and talk sanitation. Get the children interested, and get them to talking of "the deadly housefly," the "stegomyia fasciata" the "anopholes" etc.

We have got to educate these little ones in hygiene and in carrying out the laws of sanitation, if we want to get our State in a perfect sanitary condition, for it is as hard to educate the ignorant class of white adults in hygiene, as it would be to get them to understand Greek and Latin. And the only way we will ever accomplish the good that we should in the sanitation of our State, will be by educating the children in hygiene. We should have a class in hygiene in every grade of our graded schools, and children should be re-

quired to pass an examination on this subject before they are allowed to advance to the next grade. There should be just as much stress laid on hygiene in the schools as any of the other subjects. If we can get the little folks interested in a sanitary movement, they will be able to do more with the old folks at home, than all of the doctors in the State.

So let us see that every school in our State has someone that can teach hygiene among its faculty, and see that the children are taught hygiene and taught it well.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By T. ATCHISON FRAZER, Marion.

This is so large a subject and needs so much careful study that I feel my inability to grapple with it in a way worthy the subject. There are many angles from which we may view this matter, and we will endeavor to take the most practical course in its study. I will speak more from the standpoint of the rural health officer, as I am from a rural county, and my experience has been along that line. The problems are so many and varied that I hardly know where to begin, or, when to finish; but the first problem before all health officers is to save human life; to prevent such diseases as we know are preventable; to save the fathers and mothers, the boys and girls, and the infants in their mother's arms from a premature death.

We know in this beloved State of ours that between forty and fifty per cent. of the lives lost in the good year 1911, were sacrificed on the altar of ignorance and indifference, that their loss was a tremendous economic loss to the State, that the money spent for doctors, nurses, and medicine was money that should have been put in the regular channels of commerce. I will ask your pardon for my reference to the economic loss at this time. I believe it is important to get the people to look at the loss of money first, as the people of this country are primarily a commercial people, and it seems impossible to get the American people to look around the dollar to see anything, you must get the dollar before them so that they will have to look through it to see the object of this work.

The first great problem of the health officer is to qualify himself for this work, to understand the preventable diseases, and to know how we can meet the onslaught of this enemy when in its incipency. This school organized under the laws of the State will do more to educate the health officers of Kentucky than

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anything that has been done. I want to congratulate the people of Kentucky for their wisdom in electing a Legislature that has the physical welfare of our citizens so much in mind as to enact a law that would compel the guardians of the public health to in some measure at least qualify themselves for this great life-saving work. If we take the interest in this, the first meeting, that it is our duty to do, we will go home to our people with a message that will bear fruit in the future.

The health officer to do the best possible work should be paid a salary commensurate with the work that he is to do. He should be in a position that he would not feel under obligations to any individual in his community; then he could have the support of the medical profession, which he so much needs in his work.

The one great problem of the health officer is to educate the people up to a good general knowledge of what the preventable diseases are, and how to prevent them. We should teach the people that typhoid fever is a disease that is bred and born in filth, and that no one can have the disease without swallowing some of the excreta from a typhoid patient's bowel or kidneys. We should point out to them the ways that the disease can be prevented; we should show them how the army surgeons prevented our soldiers from contracting this disease while they were camped on the Texas border in the summer of 1911. We should point to Panama which was once as deadly a place for human habitation as the "Black Hole of Calcutta," and tell them how the death rate has been reduced until it is now lower than the lowest of our American cities.

The "great white plague" is the most widespread of the preventable diseases, and it takes a greater toll of human life for its grind than any other disease.

Again education of the laity is of first importance for the tuberculosis bacilli can only become active when it finds suitable soil to reproduce itself in. The germs are expelled from the lungs of the poor victim, and find their way to the lungs or other parts of the next victim by entering into some open port of our bodies. The greatest difficulty in checking its ravages is the controlling of the "hunger" who roves over our country like some savage monster seeking whom he may devour. He spits on the streets, on the floors, in the public buildings, or anywhere he happens to be at the time he has to expectorate. He drinks from the common drinking cup; communes in our churches; coughs in our faces and sends the germ laden spray into the air that we breathe. As a rule he is not to blame, but the crime in most cases lays at the door of the doctor that is too selfish to run

the risk of offending his patrons; or he is ignorant of the principles of preventive medicine. Often he does not inform the patient, or family, of the nature and infectiousness of the disease until it is well advanced. In my opinion every consumptive should be under the supervision of the health officer. Diphtheria, measles, scarlet fever, and whooping cough all take their toll of infants and children, and the problem before us in preventing these diseases is to get the cooperation of the family physician to have an early diagnosis made, and a prompt report to the health officer so that he may take the proper steps to isolate the patient.

Dysentery and the diarrheas of infants and children are purely preventable, and I will assert that they are the easiest prevented of all preventable diseases if the mothers of our country are properly educated. There is no scene more pitiful than the wasting away of a sweet babe suffering of the so-called summer diarrhea that many mothers think is almost a necessity during the second summer; the little fellow pale, and emaciated, fretful and peevish; his skin hanging in wrinkles, his little bones almost protruding through the skin about the joints; his eyes dull and his features expressionless, his wail is pitiful as though pleading for help. The great problem in this disease is to teach the mother that the best way to treat this condition is to prevent it. The sweetest music that ever played on the auditory nerves of man or woman is the prattle of a healthy, happy baby, and it should be our constant endeavor to prevent the diseases that make these little innocents suffer during the second summer of their existence at the very time when they should be in the full enjoyment of baby life.

One of the problems for us to consider is the apparently mysterious disease, cancer, when we consider that about ten per cent. of all deaths after the age of fifty are due to this one disease, and that we know but little of the means of its prevention, it then becomes one of the great problems for us to solve, and we hope that in the near future some man will rise to meet the emergency, and tell us how to prevent this disease.

Yellow fever has been eliminated from our country, and it will be impossible for it to get another foothold if that eternal vigilance is adhered to that is necessary to our health and happiness.

We know how to prevent malarial fever but we are not making the progress along this line that we should. We have the means at our fingers ends to stamp out this disease, but, yet it is a problem for the health officer as how to apply the means to attain the results desired. This is a matter of education, the people must be taught that they can only have

malarial fever after being bitten by an infected mosquito, and when we rid the community of the mosquito we will have the prevention of malaria solved.

Pneumonia, lagrippe, bronchitis, and common colds are also in the category of preventable diseases and deserve our most careful study. The medical profession in general and the health officer in particular should be on the alert to teach the people the proper care of the air passages, and thereby save the sickness, suffering and deaths that are caused by these diseases.

The venereal diseases are very prevalent in this country and seem to be on the increase. Their far-reaching effect and influence are just now being appreciated by the physician. The layman seems to be in perfect ignorance in regard to these loathsome diseases. The microscope has revealed to us the horrible effects of venereal diseases on the innocent women of this country, and the bacteriologists are now in a position to say to us that about seventy per cent. of the women who undergo abdominal operations are forced to the operating table on account of venereal diseases, yet gonorrhea and syphilis are more often treated at the corner drug store than in the doctor's office. These diseases are treated as a joke by most young men who have not the least conception of their direful effects.

Blindness, the worst of all afflictions, is also a problem for the health officer to solve, and when we think what it means to be blind, and the facts confront us that ninety-five per cent. of the blindness can, and should be prevented this becomes a very large problem. Again venereal disease plays a very important part. Here again we may well consider the economic loss for ninety-seven per cent. of the blind become a charge on the State or the community in which they live.

There are many other diseases that properly come under the head of preventable disease, but it is not in the province of this paper to touch them all.

One of the great problems that is before us is the destruction of the common house fly. This pest is also a product of filth, and he is not satisfied anywhere else except at meal time, when he likes to eat at the first table, then when he has enough he will crawl over the things you eat, or get in your milk or coffee. I am sure that the fly is the carrier of at least forty per cent. of the germs that produce the sickness we have from the 1st of June to the 1st of October. The great question then is to eliminate the fly, and this can only be done through an enlightened public, therefore it is up to the medical profession, and especially the health authorities to educate the laymen. We should teach the people that screens in the windows will often keep crepe

off the doors. That food exposed to flies means that the food will be contaminated by pathologic germs that will surely produce disease.

Among the problems that confront the health officer is that of ventilation. The schools and churches of this country are notorious for foul, stuffy air. There are in every community many hidebound, moss-backs that think fresh air is poison, and when even a window is open, they will close it for fear of "catching cold". Children are kept in a close, stuffy schoolroom for two hours, breathing over and over the same stale air, and inhaling the same stale fumes that are in every school room, and then their parents will wonder why John or Mary has a cold. Sunshine and fresh air are absolutely necessary to the well-being of child life, and in this, as in all else pertaining to the prevention of disease, education is the key-note. Fresh air and sunshine will paint the cheeks with the rose tints of health, and make life one bubbling, rippling stream of happiness.

The question of food and drugs also should be considered one of the problems for the health officer to solve. It is a notorious fact that the men of commerce in this country will, in their greed for the almighty dollar, poison the women and children with chemicals they put on the market for people to eat. It is alright for you to eat benzoate of soda and salicylic acid if you choose but you have no moral right to feed them to helpless children. Foods that need chemicals to preserve them are stale and unfit to eat, and it should be a penitentiary offense for them to be sold. Rutledge Rutherford is the leading authority on food poisoning, and he estimates that six hundred thousand people in the United States are poisoned by foods every year and of this number many thousands die. We also know that drugs are put on the market and recommended to cure all the diseases that human flesh is heir to, that have no merit other than to relieve pain, and fix the opium habit upon the unsuspecting victim. Thousands of infants are sent to their graves every year from the effects of opium in soothing syrups. These poisons are given by loving mothers who are ignorant of their direful effects. The so-called headache tablets and powders that you find in every drug store owe their efficiency, if you will pardon the expression, to some of the coal tar derivatives. People can be found in every community who are suffering from chronic acetanilid poisoning, and yet they continue to take these drugs. The worst feature of all poison-carrying medicines is that they are labelled harmless.

The difficulties of the health officer are many and varied, therefore, we can only mention a few of them. One of the difficulties

that confront the health officer is that our laws are not adequate. There is not the proper means at hand to combat disease. The fixing of the salary of the health officer is in the hands of the fiscal courts of the various counties of the State, and not many magistrates are sanitarians, they as a rule have very little knowledge of the duties of the office. They do not appreciate the importance of the office; they do not know the necessity of clean premises, pure water, and fresh air. They do not know that lives are being sacrificed at their very doors on account of their ignorance. And, if I was going to give the paramount difficulty of the health officer, I would only say ignorance and superstition.

One of the greatest difficulties that confront us is the indifference of the people in regard to the cleanliness of their person and premises. They do not realize that it is to their interest to keep their bodies clean and wholesome. Many people who tolerate filth themselves think it none of their neighbor's business, but it is, no man has a right to maintain a nuisance that is offensive to his neighbor, for we are truly our neighbor's keepers.

The question of water supply and sewage is also one of the difficulties that we have got to confront, and it is a very large question, too. In the smaller cities the question of sewerage is one that is hard to solve for here again the hide-bound moss-back tries to obstruct our course, and we all know it takes money to install sewerage, and the vote of the staid patter counts as much as that of any one else; but the only course to pursue is to tell the people that it is for their wives and children that we are working, and that we are going to keep everlastingly after it.

One of the difficulties that confronts us is opposition. We meet it on all sides if we do our duty. If we do not meet with opposition it is a sure sign that we are doing nothing, for it is a well-known fact that all progress meets opposition, and that if we stand still or retrograde there is no opposition. Another difficulty is that we are afraid that we will make mistakes. I want to say just here that the man who makes no mistakes makes nothing. In conclusion I will say that I have only touched the high places on this subject, and at times have not stuck to my text, but it is impossible for one to cover this entire subject in one paper, or in one meeting of this school, as there is always something left unsaid that should have been told.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By J. F. Young, Monticello.

Since this is a new branch of work for the medical profession, perhaps, the greatest independence will be allowed.

Then I shall discuss these questions from the viewpoint which has been forced upon me from the environments in which I live and move and labor.

During the years, since 1907 as health officer of Wayne county, my study and observation of these practical health problems has fully convinced me that theoretically, the county health officer is in a position to be the most important unit in the health organization of the State, but practically this is not the true condition of the situation.

It is not because the county health officer is incompetent; it is not because he is unwilling to do his full duty; it is not because he does not appreciate the great good that he may do; but it is because of factors direct and indirect which he can not control.

Some of these causes, some of these factors, I hope to develop.

Each one has some problems and difficulties peculiar to his own locality, as well as the more universal conditions which apply to all alike.

Some of these conditions are the direct cause of the health officer's usefulness being reduced to the minimum.

There is no intention or desire, in what I may say, to offend any one, but if what I say carries with it a friendly criticism, it is hoped that some one will be led to think better in this new field of endeavor.

That I may bring out my first problem clearly, I will draw a contrast. Nine-tenths of all the buildings in Monticello have been constructed since 1898. They are new and modern in architecture. Plate glass windows beautiful in design and arrangement, make our prosperous business houses attractive; the mills are doing a good business; the two banks are modern in appearance, in business methods and are well filled. The graded school, housed in a modern brick building, is managed and taught by eight well-equipped teachers, first class and cultured. Three good church houses are in the town; cultured and broadminded pastors preach to an intelligent people.

About fifty per cent of the side walks are well paved with brick or cement. The professional men are capable and deserving. A citizenship not surpassed by any city in Ken-

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tucky. Tulips, hyacinths, roses, cannas on the lawns add to the charm.

Electric lights gleam out across the darkness in the early night to make the day longer for work or play. This is the reception room and is what may be seen when one comes into town.

There is another picture not so bad, I hope, which many small towns present, but these conditions can be changed and in so doing the breeding grounds of death-dealing germs will be destroyed.

Sure, I would not draw this indictment against Monticello, it is some other fellow's small town and village I am now telling about.

Walk with the health officer some hot day through the back alleys, through the narrow back ways, behind the business houses, and through the back yards of the homes. You will find a problem for your spare time there. Goods boxes and barrels and kegs are there. Oyster cans, fruit cans and beer bottles are there. Old rusted buckets and pans and broken stoves are there. Old broken crockery and queensware and bottles are there. Old hats and shoes and rags are there. Old dead cats and rats and mice are there. Pig pens and cow sheds and stables are there. Stagnant pools of water and decaying vegetation and growing weeds are there. Soap-suds and dishwater and kitchen garbage are there. Heat and sunshine and rain are there. Poison gases and foul air and offensive odors are there. Great swarms of flies and millions of germs of disease and winds are there. Sickness and disease and death are there. This is the old curiosity heap which is so many times allowed to form through carelessness or neglect and the winds and the flies carry the products of these places into the homes of the rich and poor alike; into the reception room, into the living room, into the sleeping apartment, into the dining room, onto the table and onto the food.

The health officer may have gone before the city council and pointed out these conditions and asked for an ordinance to have all this heap removed, carted off to some select place and these places made sanitary; still the material remains month after month just the same, unremoved.

This condition is not found at every home, the premises of one may be clean and beautiful in every spot, but this does not protect the home so long as these unsanitary conditions are allowed to exist on other premises; this fact makes it a public question and is of vital interest to every man, woman and child.

One vital question then which is of paramount interest to every citizen is, what to do with all this waste? There is only one answer: Remove all this heap of rubbish and make ev-

ery spot clean. Put in a well constructed sewerage system to carry off the waste. Put in water works, which will furnish an abundance of pure water at all times. We can not fight diseases successfully without pure water. This is the first and the most essential problem that every community must meet.

The conditions are such, that in many places the people stand in immediate and great danger of an outbreak of any of these fearful diseases of germ origin.

Day by day, and month by month, the soil is becoming polluted and diseases which were not described in our text-books a half a score of years ago are now among us.

It is only because of the skill of a number of medical men employed by the Government that other, more fearful diseases from foreign shores are kept out of this country.

Our motto should be at all times and at all places, "Clean up and keep clean." The water supply is not only a local question, but a State and National problem and needs county, State and National supervision.

The streams of the State are being polluted from their source in the mountains, through the State and throughout their course to where the broad river sweeps into the Ocean.

These are questions which every generation must meet and the more dense the population, the greater will be the necessity for their correct solution.

When any form of contagious or infectious disease gets a start in a community, the health officer can be of very great service to that community, if he is loyally supported financially; so that he can give all the time to the work the case demands. To make his work successful he must also have the cooperative support of public opinion.

The disease may be of such a character and so located that a quarantine must be established. This should be done in such a way as to make the family as comfortable as possible consistent with a thorough and efficient quarantine; at the same time there should be as little obstruction to travel and business as is consistent with efficiency.

Here the officer finds his usefulness very much crippled and his work much delayed, because there are no funds set apart that he can draw upon to have the work done promptly. I consider this the broken link in the work of preventing sickness in the State of Kentucky. With our present definite knowledge of the cause of diseases, we know that much of the sickness can be prevented, but it takes men's time and money.

The office of the State Board of Health has been provided for in a way that its influence for good is being felt all over the State. The county health officer is provided for in such

a way, that practically, there is no health officer in some of the counties.

We must go before the fiscal court for this officer's salary. This is one of his indefinite problems. The members of this court in some of the counties are men who are in sympathy with this officer's work and they are ready to cooperate with him and have thought correctly along these lines. They have formed some definite opinion as to the value of the officer's time and service, and to some extent pay him a sum commensurate with the value of the service, and are not willing to rate a medical officer's time and service with the common day laborer.

This is not the situation in all of the counties. Some of the fiscal courts have men, who are members by political chance. They may be good men, (and in most cases are excellent men), but they know nothing of what the medical organization of the State, and its branches, the county health officers, are doing and trying to do for the citizens in preventing sickness.

By their environments and education, they are led to believe all doctors' bills are too high and go so far as to lobby with the members of the court to put the health officer on pauper wages, thereby reducing his usefulness to the minimum.

To my mind it is simply preposterous, why a fund can not be set apart for the county board of health for its use in the work of sanitation, as the State has set apart a fund for the work of the State Board of Health.

A board of doctors, by their education, by their technical training and knowledge of disease producing germs and their mode of life, are better judges of when and how funds should be used for this work than any other class of men.

The very nature of this work is such; that the fiscal court does not know the value or the far-reaching results of a few hours time of the health officer; he may, and often does, shut up some contagious or infectious disease and never let it spread beyond the first case.

The people do not recognize, or know, the value of the services of a few hours spent in stamping out a disease. You cannot see the fire after it has been extinguished. Let the disease have its unobstructed way and scores of cases may develop and a number of deaths follow.

The county health officer can not give to this work his best time under these circumstances. There are definite and well-recognized causes why this is the state of public opinion.

Scientific medical literature and sanitation have never been presented to the people in a way to mold any clear and well formed opinion on these subjects.

There is not a great daily newspaper in any city in any country devoted to the laws of health and preventive sickness which go to the people at large. It is true there are great medical journals in many cities in every civilized country in the world, but they go to the physician, only, or at most to those who are in some way connected with the physician and his work.

Then another cause of this indifference is the very fact that the patent medicine people, the street vender, charlatan and hoodoo man keep themselves constantly before the public, through posters, through pamphlets, through almanacs and through the public press. This is the only printed matter a very great number of people ever see or read, about medicine.

We do not wonder then, under these circumstances, why there is no well-defined and clear understanding of these problems. Sometimes very prominent people in every walk of life will allow their names to be used in the public press endorsing these methods.

Who ever heard tell of a great surgeon saving the life of many each year, or a physician using remedies of known potential power, through a long and busy life, putting up posters over the town or paying for column after column in the city daily paper, telling of his work.

We are creatures of our environments and education and if our education has a bias in it, our conception and view of many problems may be warped.

The medical profession as a whole, working for high ideals and for greater skill and efficiency, as the years go by, looking for facts and truths in each and every field of medical science has allowed public opinion to be moulded, not in harmony with this advanced age of scientific medicine and preventive sickness.

If this state of public thought did not exist, the Owen Senate bill would have been made a law promptly, and we would now have a national bureau of health, with its chief officer coordinate with the other Cabinet officers of the Government of the United States of America.

The organized profession is now standing before the footlights of a new age in the medical world.

We are pioneers in this new era of preventive sickness and the sessions of this meeting will be an historic event.

If time permitted, I would love to trace the history of the medical profession along down through the centuries, beginning at that far-off time, when the physician's chief remedies were songs, incantations, charms and hoodooism.

Note its devotion to humanity, its brilliant successes and its scientific achievements as

civilization and enlightenment dawns on the ages.

Through the centuries, the best minds were occupied in trying to find remedies to cure people after they had become sick and then smallpox and diphtheria and scarlet fever and yellow fever and cholera raged over the countries of the world.

It was so recent as 1775 that Jenner gave to the world vaccine as a preventive for smallpox, the greatest discovery of all the ages, yet so simple. Smallpox for one hundred and thirty-seven years has been fighting a losing battle and now lies slain at our feet.

This was the dawning of the new era of preventive sickness. But it was left for Koch, only thirty years ago to roll the curtain away and look down into the invisible world, to the unaided eye, and make known to all men, the cause of consumption, the tuberculosis bacilli.

This was the real birth of the science of bacteriology and through this the bacteriologists are working out the cause of all diseases.

Knowing the cause of a disease, the nature of the germ, its life, history, much can be done to protect mankind from its deadly work.

WHAT HAS THE HEALTH BOARD DONE FOR THE COUNTY OF ADAIR?*

By U. L. TAYLOR, Columbia.

Something over twenty years ago, I received a letter from Dr. McCormack at Bowling Green, Ky., asking me to name two doctors of my county, to be associated with me in a health board for the county. I promptly complied with his request, and was appointed on the board and was made health officer, and have remained in that office ever since. When first appointed I knew scarcely anything about the duties of the office, but I went in with a determination to find out its requirements, and do whatever I was called on to do. I had an idea that if anything like smallpox were to break out in the county I would be expected to look after it, quarantine the exposed people and flag the houses and give the epidemic a kind of general supervision. This was the sum and substance of what I expected to be called on to do. But when I began studying the requirements of the law on the subject, I found that smallpox was a very small portion of the business of a health officer. Early in my official life, I found health officers were required to look after all manner of epidemics that made their appearance in the county, and as fast as I found this out, I learned not to shirk the duties thus impos-

ed upon me. I have during the whole of my official life been visiting every case of typhoid fever of which I had information, and putting the premises in the very best possible condition. If no unsanitary condition were in sight I hunted for it. If any were in sight, I began work to eradicate it. I saw that the laws of the State Board of Health required the health officer to look after the sanitary condition of the school houses of the county. I did not take second-hand information on this subject, but visited all the school houses and saw for myself. I visited all of them, about ninety in number, every year, and not only did I look after the sanitary condition, but looked after the sanitary condition of the children as well. I early came to the conclusion that the health of the county depended largely upon the health of the children in the schools. I had one hundred hand bills struck, and posted one in each school house, declaring that spitting on the floor tended to the spread of disease, and that teachers should not practice it, and should not allow their pupils to do so. In my annual rounds, I do not have to mention this matter now, because nothing of the sort is done in my county. Dr. McCormack was fortunate in the selection of a health officer for my county, in getting a man who never has tasted whiskey, and never has used its twin abomination, tobacco. Otherwise it would be like a blacksmith riding a barefooted horse or a shoe-maker letting his children go unshod, or a tinner living under a leaky board roof, or a drunkard preaching temperance, or a thief preaching honesty, or a sinner preaching sanctification. A health officer should be a healthy man. I show myself to the school children as an almost perfect specimen of physical manhood. Six feet high, straight as an Indian, weighing 175 pounds, and active at 80 years old. I tell the children that if they will live as I have lived, abstain from the use of whiskey and tobacco, never hump over, always stand upright, that many of them will live as long as I have lived, and be as active at 80 years old as I am to-day. It would be foolishness in the extreme for a man to be going around preaching the gospel of good health, to five thousand children in the county when his very looks show that he is afflicted with all the diseases known to every medical almanac. It would be foolishness for him to preach to the people that they should stand erect, when he himself is bent over like the half of a barrel hoop.

Ten or fifteen years ago, an epidemic of dysentery broke out in our county. I went on the ground and flagged every house where the disease was found, and in looking over the situation I found three large filthy ponds which I ordered drained. There was serious opposition by the owners of all of them, but

*Read before the school for Health Officers, Louisville, July 5, 8, 9, 10, 1912.

the draining was done, and the plague was stopped, but not until about ten children had perished. But there has been no epidemic of dysentery since that time.

In the last four or five years the county has been badly afflicted with diphtheria. We had a few cases in the upper part of the county, but it had generally subsided. There were a few cases not entirely well, and the county fair coming on in August, and thousands of people attending it, caught the infection, and it broke out in perhaps 20 different places. When it first made its appearance in the county, I went to all the druggists and tried to get them to order and keep in stock, a good supply of the diphtheritic antitoxin. They refused to do so, saying they were afraid of having a lot left on their hands. Up to that time I had been prejudiced against this remedy. I had been reading the *St. Louis Medical Brief*, and we had had no diphtheria in the county for quite a number of years. The accounts that I had seen in the *State Journal* had caused me to look with more favor on the antitoxin, and I was anxious to see it thoroughly tested. I accordingly took on myself the responsibility of ordering a large lot of it, and have kept it on hand ever since. When we had by the use of the antitoxin mostly eradicated the disease, there came an advertisement of a tremendous circus show to be exhibited in our town. Remembering the trouble that the fair had given us the year before, I determined to stop that circus. I accordingly called the county board of health, and by the help of the county attorney, passed an order forbidding the exhibition. There was a great kick from many of the children, and some of the men. But the best people endorsed the action of the board. I sent letters to the manager of the show, and one of them reached him at Burkesville, just two days before he was to be at Columbia. He immediately called me by telephone, and asked me to have the order rescinded. I told him I could not do it. He then proposed to have the show and exclude the children. I told him that a show of that sort would be no show at all, because the men went to shows only to take the children. The show did not come and the disease did not spread. But the antitoxin proved to be a decided success, and the doctors go as willingly to see a case of diphtheria as they do to see any other kind of a case.

Such action as was had in stopping the circus tended still further to render the health officer a very unpopular man. He is the most hated man, if he does his duty, of any other human being. If he fails to do his duty, he is cursed and abused, and if he does his duty it is worse. On this account I suggested to Dr. McCormick some time ago, that he appoint no health officer hereafter without

sending him an able-bodied fool-killer. Every thing that has been done by the health board in my county, has met with the most determined opposition of the fiscal court, and I have been us persistent in fighting that court as I have been in fighting the most deadly disease.

Really, I do believe that the fiscal courts in the State of Kentucky, have caused by their opposition to the boards of health, more deaths to result to the people than any one disease. Sometimes, however, I am constrained to think of some of our members what Roosevelt said of Taft, they mean well, but mean well feebly. One member of our court told me that he was confident that they did not pay me enough for my services, but was afraid to vote to pay me more, on account of the opposition of the people. Another one when I told him what the Court of Appeals had said about the pay of health officers, asked, "What has the Court of Appeals got to do with it?" I told him nothing, but sit up there at Frankfort, smoke fine cigars, have a good time, and make you fellows do your duty. He said the Court of Appeals had nothing whatever to do with it. Just as soon as he found out that the Court of Appeals could override the fiscal court's decisions, he resigned, and that was the most sensible and brilliant of all his official acts.

Next in importance to my fight against the fiscal court has been my fight in defense of the Vital Statistics Law. This opposition comes largely from the physicians of the county. And their opposition comes mostly because they have not received their pay. After so long a time the doctors, midwives, and grannies received vouchers for their work last year. Then they learned that their vouchers would have to be presented to the fiscal court at its October term, then if the court don't refuse to allow it, it will be paid a year from that time. But if the fiscal court in its great and mighty discretion, refuses to allow the claims, there is not one of them that will be large enough to take an appeal to the Circuit Court, and the claims will be lost, unless these doctors, midwives, grannies and registrars pool their issues, and let the claim be prosecuted by one man.

In my county the registrars are the least troublesome and the most reasonable. They want their pay, but they are not inclined to make much fuss about it. I am on very close and agreeable terms with all the registrars. I have them to furnish me with statements every six months, showing the number of deaths and births, and from what disease the deaths occurred. It has been of advantage to me in my business. In the report made to me on the first day of January, 1912, I found that one precinct in the county had twice the number of deaths from consumption, of any

other district, and yet it was by no means the largest. I inquired of the doctor doing the largest practice there as to the cause. The district is in the extreme northern part of the county, nearest to Louisville. He replied that he did not know, but as all the chronically ill were taking Charley White-Moon's medicine, that probably was the cause of it. I have been looking for some other cause for it, but up to the present have not found one. But while in that district we had ten deaths last year from consumption, up to the present this year, only two or three have been reported to me. The registrars reports for last year show that in Adair county we had 232 deaths, and 446 births, nearly two to one.

The last census shows some remarkable things. If the health officers of the adjoining counties are present, they can correct me if I am wrong. Casey county nearly the same size as Adair, in the census of 1900 had a population of 15,128, and in 1910 had gained 345. Adair county in 1900 had a population of 14,888, and in 1910 had gained 1,614. Metcalfe county in 1900 had a population of 10,000, and in 1910 had gained 400. Green county in the last decade lost about 300, but the railroad trouble accounts for that. Taylor county, on that same account had gained but little. The other counties adjoining Adair tell the same story. Now what is the cause of all this? I am vain enough, if it be vanity, to believe that it is my work as health officer that has caused the big gain in my county. I have persistently fought every epidemic that has sprung up in the county for the last 15 years. The mosquitos have so nearly been put out of commission, that I have not seen a case of old-fashioned "shakin' agur" for years. There have been but few deaths among the children in the county for quite a while. The death rate in our county for last year was only 13 to the 1000 inhabitants. And in the town of Columbia, it was only 11. Last year we had 42 deaths from consumption in the county, this year up to the first of July only seventeen have been reported.

I have reports from all the registrars in the county since the first of July, and according to these our death rate has been four less than last year, and the birth rate has been diminished by 13. This can be accounted for by the hard winter that we have just passed through. Out of 5,327 children of school age only seven have died this year. This is a good showing, and one of which I am exceedingly proud. Our deaths have been principally among old people, and they are living longer than formerly. In the town of Columbia, with a population of 1,100 only four have died this year, and two of these were over seventy years old. Only one has died this year under one year old.

But we have many foolish people in our county. Only last week a report got started that a law had been enacted prohibiting the canning of blackberries, and requiring all tomato plants to be plucked up by the roots. And as the people heard of it they became very much excited, and concluded, of course, that I was to execute the law. And many of the men cursed and swore, and defied me or any other man to come into their gardens to root up their tomato vines. Men swore now who never swore before, and men who always swore, now swore the more, and they were preparing to wreak vengeance on me or any of my agents, and there was such a mustering of old shotguns and horse pistols as had not been seen since the last Indian war. I tried to hire one young man to help me, told him I could not do all the work myself. I told him if he undertook the job, he must do it thoroughly, and to tell the people that no threat to shoot him, would terrify me at all. He then declined. I told the excited people in all seriousness that if they would do what they were required to do, that was all that would be asked of them, without ruining mad over imaginary things.

Let me say now, in conclusion, to my health officer friends, be up and doing. Try and save the lives of the people in your counties, and when the great white throne shall be set, and the remnant of days shall sit upon it, the Judge shall say, come ye blessed of my father, inherit the Kingdom prepared for you from the foundation of the world.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By A. W. WALDEN, Owingsville.

The subject assigned me, "Problems and Difficulties of the Health Officer" brings to mind what a young friend who had courted a girl with negative results had to say on the subject of love. He said that love was like a mountain that you could not get over or around. Not being able to get around this subject or over it, with your forbearance, I shall endeavor to go through it, and present a few points for your reflection. In an address to our graduating class by Professor Bevan, in Baltimore, he said, by way of encouragement, "the physician has to fight disease, death, dearth and the devil."

The labors of the health officer are confined to what is regarded as the non-remunerative branch of medicine, prophylaxis. The practical principles of prophylaxis cannot be evolved without a comprehensive knowledge of etiology. The cure and prevention of dis-

*Read before the school for Health Officers, Louisville, July 8 & 9, 1912.

case go hand in hand. The duty of the health officer is to bring into execution the adoption of such measures as will eradicate disease. The successful solution of this problem rests and abides in his ability to secure the intelligent cooperation of those with whom he has to deal. This is a foundation principle upon which we mount the ladder of success round by round.

The conflict between ignorance and science makes an awful struggle. There is no remedy for poverty. Sanitary measures are easily executed when involving intelligent, thrifty people. As to performing the duties of health officer among this class, whose confidence and cooperation we usually have, I shall merely mention that in my section, this class is largely in the majority and in my rounds on health business they give me a warm welcome. It is encouraging to know how gratefully these people receive ideas on sanitation and what is being accomplished by the investigators of the world in the preservation of health and the prevention of disease. The literature sent out to the people by our State Board of Health, through its efficient Secretary, is sowing the good seed and the people are being enlightened.

Eliminating the above class from the serious problems of the health officer, we pass into the haunts of those where the germs of disease proliferate and thrive with a prayer on our lips that God will pity the poor unfortunate victims. It is here in these overcrowded dwellings where often abides hunger, intemperance, filth, improper food, impure air and water, ignorance, poverty, social depravity, and everything that contributes to the loss of individual resistance. It is here that the health officer finds a fruitful field for his labor, problems that are difficult to solve, burdens that are too heavy to be borne. Herein lie problems, not only for the physician and health officer, but for our county judges, fiscal courts, State and Nation, our religious and benevolent institutions, and all who heed the admonition of Him who advocated feeding the hungry, clothing the naked, giving a cup of cold water to the thirsty, visiting the widows and orphans in their affliction, imparting knowledge and wisdom to the unlearned.

The health officer in order to solve the problems in his line of business which have to do with the welfare of the individual family, neighborhood, county, State, and Nation, should be a versatile genius. He should be an active and prompt business man, a good physician, a bacteriologist, a preacher, teacher, lawyer, and policeman; as in the multitude of counsel there is much wisdom. We are here from different sections of the State for mutual edification. My personal experience

as health officer may be profitable to you, yours to me, I am more anxious to hear yours than to relate mine. The unsolved problems before us are serious, important and urgent. The most serious one that confronts us is the tubercular problem. In trying to solve it when involving ignorant people who are careless in regard to their own welfare and to that of other people, as the fellow said when he tried to propose to his girl:

My heart, my brain, my legs their power seemed losing

And the perspiration from each pore came oozing."

We have to confess with humility, while much is being accomplished, we are progressing slowly in the solution of the tubercular problem. The cooperation of intelligent people can be had when they receive instruction as to the means of tubercular infection, its fatality and its prevention, but in our struggle against the disease our efforts are often opposed by ignorance, prejudice, poverty, and neglect, and in the case of a husband or wife who may have tuberculosis we urge that they occupy different beds, we forthwith receive our "extradition papers." One of the greatest difficulties in arresting the spread of disease consists in overcrowding. There are farms in my county that yield an immense profit to their owners, with large and commodious dwelling houses, expensive barns and stables, every arrangement for horses, cattle, and hogs, with tenant houses unfit for habitation. In one of these houses I attended a patient with pneumonia, with three beds in one room and ten persons to occupy the three beds. When I first saw this patient, all of the number who were grown persons, save one three year old child, were occupying these three beds in sardine fashion. I did the best I could to scatter them and give the sick man a chance to breathe. Frequently these contracted houses have open fire-places; this with the ventilation from indifferent construction affords the requisite amount of fresh air. When these houses are air tight and heated by stoves when occupied by large families, they are incubators for the germs of disease. The negroes of our towns generally occupy such quarters, which they regard as ideal. The amount of animal heat, produced in these crowded houses lessens the demand for fuel.

As a part of the combination that causes the spread of disease ignorance is an important factor. Some ignorant persons can be instructed in all that pertains to sanitation.

We have in our part of the State a peculiar variety of ignorant people. They are natural born citizens who are destitute of reason and the common powers of understanding. Being deficient in intellect they pursue a course contrary to the dictates of wisdom. They act

contrary to medical, moral, and religious wisdom. Usually they are filled with prejudice. Not being able to appeal to their reason, nothing but the cold letter of the law appeals to them. In them are found difficulties and problems for the health officers.

There was an epidemic of scarlet fever last fall and winter in one end of Bath county, between Slate Creek and Licking River, extending into Menifee county which took the combined efforts of the physicians and good citizens to arrest. We closed several schools. I made an order through Dr. Gudgeon to close the school in the iron-ore neighborhood. The trustee did not comply, and at Dr. Gudgeon's request I went out to see the gentleman and impress upon him the seriousness of the situation. I found him at a nearby country store with two of his friends. I mentioned to him that the physicians who were treating these patients agreed that they had scarlet fever and ordered that the school be closed. He remarked that the doctors are not near as smart as they think they are. One of his friends said it was not like any scarlet fever that he had ever seen. The third one chimed in with remarks equally nonsensical. My interview with these gentlemen reminded me of an incident that occurred with my wife's grandfather, Elder John Smith, an aged minister who resided in Georgetown. He was familiarly known as Raccoon John Smith. On one occasion three students of the Georgetown College agreed to play a joke on the old gentleman, by meeting him separately as they came down the street. One was to call him "Father Abraham," the second "Father Isaac," and the third "Father Jacob." The first one met him and said, "Good morning Father Abraham," the second one greeted him as "Father Isaac", he came to the third one who said "Good morning, Father Jacob." The old gentleman stopped him and said, "Friend, I am neither Abraham, Isaac, nor Jacob, I am Saul, the son of Kish, I have come to look for my father's asses and behold I have found three of them."

This convention has been an inspiration to me. It is the "biggest" missionary convention I ever attended. I have been much impressed by the great amount of scientific and statistical information, that has been handed out to us for health protection. I have been more interested by the earnestness of these broad-minded, large hearted men who have thrown the whole fiber of their being in their efforts to establish better health conditions in our State. Under the leadership of Dr. McCormack, who has zeal for himself a place so broad, so strong, so high in the hearts of every true Kentuckian, our efforts to protect the health of the people should not slacken.

As to the difficult, dangerous and disagree-

able laboratory work of Dr. South, to save the lives of afflicted people, God bless her. The final settlement with her will never be made until she reaches the city whose streets are paved with gold. It is a great achievement to pick up a brother who has fallen in a physical way, but a greater one to never let him fall.

Gentlemen, the time has arrived in the progress of this paper to say amen and quit. The subject is inexhaustible and what has been advanced, I hope will be treated as an introduction to what you may have to say. As a parting word to encourage you and to lighten your way in the noble, but difficult position you occupy as guardians of the public health, I quote from Owen Meredith's "Lucille,"

"He that lives to do good will never be unhappy—That fills the void of existence."

THE DIFFICULT PROBLEM OF BEING HEALTH OFFICER OF MET. CALFE COUNTY.*

By J. A. YATES, Edmonton.

I have been health officer since 1899. My experience during that period has been varied. The chief difficulty with a health officer in the rural districts, is the lack of education among the laity.

Outbreaks of contagious disease are not reported to the health officer promptly as they should be. Therefore almost every one in the neighborhood has been exposed. No one is willing to acknowledge his exposure but is ever ready to accuse others. So the health officer goes his round from home to home to ascertain who has been exposed.

After having quarantined many times they will steal out in his absence, giving no little annoyance to the surrounding country. The health officer's burden has been lightened in typhoid fever, pneumonia and consumption by the aid of literature furnished by the State Board of Health. The people fully realize now that these diseases are contagious. As a consequence they are on the decrease.

I believe that consumption in this county has decreased at least 50 per cent. within the last ten years. One other trouble that confronts me is the sanitary condition of the little towns scattered throughout the county. The inhabitants of these towns seem to have a vague idea of where they should dig a well or build a privy. We have had some fatal outbreaks of typhoid fever caused by improper drainage. There are a few difficulties among many others as a health officer.

*Read before the school for Health Officers, Louisville, July 8, 9, 10, 1912.

PROBLEMS OF THE HEALTH OFFICER.*

By J. L. ATKINSON, Campbellsville.

This subject covers a wide field and details would prove tiresome, so I shall be brief. My work is in a rural district so my remarks will take on somewhat the local color.

Our difficulties are such as are common to health officers everywhere except that in the small towns and country, conditions are such that our work must be a work of love and self-sacrifice, with little or no monetary consideration.

Our greatest problem is the education of the people to the value of the health conserving and life-saving work that is being done by the health department and the medical profession. Another problem is the opposition we encounter from the people whom we are serving, because they cannot believe there is not a selfish motive behind our interest in public health.

The ideal of the State Board of Health and sanitarians, that each health officer should devote all of his time to the duties of his office, is desirable but not attainable. This is true in most of the counties of the State because the fiscal courts cannot measure the work as worth the price. In my own county, and many of the counties are similar in this respect, if a competent health officer were employed for one-fourth of his time, and paid an adequate salary for that much of his time, he would be the highest salaried officer in the county. If the office paid a living salary to a competent man for his full time, the position would assume such political importance that political pull, and not competence, would determine the selection of the man.

Dr. McCormack proved by facts and figures that the health officer is not an expense but an investment. This, however, looks problematical to the people and fiscal courts in the rural communities. Facts and figures will show that considering only the monetary value of a man in the prime of life the saving of the life of one such man is worth the yearly salary of the health officer and the saving of two or three children is worth a like amount.

Consciously or unconsciously, there is an element of fatalism in the human mind in regard to health and disease. That sickness and death are entirely beyond human control is an idea that has not been wholly eradicated from the minds of the people. The divine edict that "the wages of sin is death" is no more true in the spiritual sense than that the penalty for sin against the laws of health is,

suffering, disease, and oftentimes death. Education along this line is the province of the health officer.

When a community is attacked by an epidemic the people are ready to call on the health officer to arrest the foe; but when in fancied security of health they are oblivious to the lurking foe in the stagnant pond or stream, the cesspool, the filthy back yard, the reeking alleys of our towns, the pesky housefly, the evasive flea, and other bugs and insects, carriers of infection.

The work of enforcing quarantine regulations and isolation for the control of an epidemic is evident enough to the lay mind to indicate its value to the public, but the more valuable work of prevention is not appreciated for its worth. Sickness and death must be seen face to face to make an impression on the average citizen. The sickness and death that never come because of preventive measures cannot be seen by the public hence the probability of their having occurred cannot be demonstrated.

The education of the people in the prevention of disease is the greatest work of our army of health officers at this time and until the public can be taught the value of such work it must be done for the sake of duty.

The rural health officer is usually a man of limited means, who must earn his living by his daily labor, so his work for the public health cannot be as efficient as its importance demands, but his local work is being supplemented by such a thorough educational campaign conducted by the State Board of Health that the people are being rapidly enlightened in regard to health conservation. The continuation of this educational campaign is the best solution of the present problems of the health office, in my judgment.

THE PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By E. B. McORMACK, Clinton.

The problems and difficulties of the health officer are many, the fruits of his work, under the present arrangement in Kentucky, varying and uncertain.

There is a reason why there are difficulties encountered and a remedy for a thorough and intelligent handling of any problem. We should first analyze existing conditions as making a diagnosis of a disease, then ascertain, if possible the cause, and then decide upon the remedy and apply it.

I have only been health officer of Hickman county about one and one-half years, but during that time have given this work a good deal

*Read before the School for Health Officers, Louisville, July 8, 9, 10, 1912.

*Read before the School for Health Officers, Louisville, July 8, 9, 10, 1912.

of thought, and I have arrived at this conclusion. That the one great hindrance to our work in this State is that we are working under the wrong system. The time has never been nor the circumstances will never permit of a health officer performing efficient services, and at the same time practicing medicine for a living, and I want to go on record as saying that until there is a change of the present system of work in our State, and the health officer placed on a sufficient salary to allow him to devote his entire time to health work, our efforts along this line will be in a marked degree a failure.

First, he will never be able to combine the practice of medicine and health work and at the same time get the proper cooperation of the physicians of his community.

Second, any man is going to be more efficient in the work from which he earns his livelihood, because if he fails in that particular work his income falls off. Hence, as is the case with most of the health officers of the State, they are not qualified. In a majority, if not in all, the counties of the State.

The salary of the health officer is a mere pittance as compared with what he should receive.

I like to imagine that we had an ideal arrangement of health work like this: A health officer on a salary sufficient to insure him a living in each county in the State, qualified to teach the grown people how to live and be healthy; to teach the children how to live that they would be stronger and live longer than their parents; to teach the whole people, yea, prove to them, that conservation can and should be practiced on human life.

How is it gentlemen that we have lagged in this great work so long? I do not mean to say that there has not been anything done along this line, for great strides have been made in the past few years in this particular line of work, but we are only beginning.

We, in my judgment, are in the midst of a great reform movement the Nation over. Then let us as guardians of the lives and health of the people not lag behind, but like brave men shoulder the load, and with new and determined zeal inaugurate into our State the ideal system of health work. Namely: A health officer in each county in the State on a reasonable salary to allow him to make out of himself an ideal health officer—one qualified and ever ready to solve the problems that may arise which are calculated to prevent sanitary conditions of his community. Thus allowing him to be to the people an ideal health officer, but some of you may say that this can not be accomplished at once. I believe that with a concerted effort of the 2,000 physicians of Kentucky to bring it about it can be done, and I for one, believe that here is the place and

now is the time to organize for such a movement. I feel it a duty we owe to our people to do this now. It may seem that I have not adhered to my subject very closely as I suppose the problems and difficulties of health officer under the present system of work should have been discussed, but as I have very little faith in the amount of good that can be done under the present system, I feel I must add my support to the idea I have suggested.

We may expect to find obstacles in the path of progress, but the main one in this great fight is ignorance—that is the one great hindrance to this work, but we should be only too glad to make the greatest possible effort to enlighten the ignorant and convert the skeptical to the greatest work of the present age—"Conservation of human life."

Syphilitic Disease of the Aorta.—Goldscheider states that the prevalence of involvement of the aorta is still underestimated. During the last two years he has encountered ninety-seven cases in his private practice and forty-nine in the polyclinic. His experience confirms anew the favorable influence of specific treatment on the syphilitic affection of the walls of the aorta. Small aneurysms may retrogress entirely and medium-sized ones to a certain extent, but little effect can be anticipated in the cases of very large aneurysms; here benefit is exceptional. Iodid treatment alone never displayed any appreciable influence on syphilitic aneurysm of the aorta in his experience. General hygiene is especially important; in two of his cases carelessness in this line on the part of the patients interrupted the progressing improvement and put the patients back in their old condition. He is confident that by repeating the course of specific treatment from time to time the patient's life can be materially lengthened if he takes the proper precautions.

Origin of Gall-Stones.—Hofbauer argues to prove that the erect position of man is responsible for the conditions which favor cholelithiasis, the flow of bile not being so free as in four-footed animals. Human beings must make an effort to improve conditions in this respect, and he says this can be accomplished by training the diaphragm to wider excursions. He advocates deep abdominal breathing as a kind of automassage of the liver and bile ducts. The abdomen should be drawn in during expiration, not during inspiration. The abdominal musculature should be made to aid in expelling the breath. This forces the contents of the abdomen up toward and against the relaxed diaphragm and vice versa.

THE FORUM

Old Drennon Distillery, H. D. Edgars, Sole Distributor, Louisville, Ky., Season, 1912.—Dear Sir: The Kentucky laws permit you to receive whiskey shipments in 5 gallons or less in unbroken packages.

There are a number of people in your neighborhood who would like to receive goods but cannot order within the state as the laws prevent shipments to any but licensed doctors or druggists.

If you will permit those who wish to order to have goods shipped to you, without expense to you, it will be an accommodation to both of us.

This in no way violates the state laws, as you will see from the enclosed clipping, which quotes the law on this point.

Will you kindly write on the back of this letter a few names of friends to whom I may send my price list, and allow me to ship the goods to you, where the package can be called for?

We can not afford to pay a commission; I do not know if this would be legal, but I will be glad to give you a free gallon for every ten I ship to you, to reward you for the trouble in handling.

The enclosed card explains my plan of giving a free gallon.

Write on the back of this letter only the names of those who may mail me an order in your name and have the goods go to you—they can call at your place for the package, or get it in your name, at the express office.

I will handle the shipments in such a way as to cause you no trouble, and you will receive a gallon of my very finest Old Drennon for your kindness, every time I receive orders for 10 gallons—you keep track of the orders on the card, and return it to me.

Should you wish to send me an order for Old Drennon, I will present you with an extra full pint of very fine stock, to pay for the names you write on the back of this letter.

Old Drennon is a very choice pure, straight whiskey, and is used in general practice of physicians.

Please write me.

Yours very truly,

H. D. EDGARS.

Return this letter with names on back, if you will also order, I give you an extra Free Pint.

August 10, 1912.

Mr. H. D. Edgars, Louisville, Ky.—Sir: I realize that it is perhaps not worth while and yet I desire to devote sufficient time to your offensive letter of recent date to resent the insult which it implies.

As I have no intention of engaging in the whiskey business, I do not see what right you had to presume that I would be interested in your bootlegging proposition, even though you generously offer to give me a small package in payment for my services. Your construction of the law would be interesting and amusing if the proposition you make to me, and I presume generally to the physicians of the State were not so insulting. It becomes quite clear that your estimate of the character of the doctors generally, differs very much from that of the law makers who made an exception in their case and permitted them to order whiskey presumably for a medicinal purpose.

Since you doubtless find it profitable to deal with the weaker element of the medical profession, I wonder that you do not branch out a little and include the illegal sale and distribution of cocaine, morphine and some of the other deadly poisons which doctors are permitted to order and which unfortunate human beings often want. You must of course admit that such traffic would be quite as honorable and as respectable as that which you so brazenly invite me to share with you.

As for sending you a list of my friends I must say that unless your whiskey is vastly superior to your ethics, I have no friends for whom I care so little as to expose them to either, and I feel that it would be rather a cowardly way of getting even with my enemies.

Since you have taken the liberty of opening this correspondence may I ask you in simple fairness to advise me just how you procured my name and what justification if any you have for presuming that I would be interested in such a scheme.

Yours truly,

THOMAS C. HOLLOWAY.

(Copy).

Röntgenotherapy of Goiter.—Question-blanks were sent to a number of German clinicians for their experiences in this line. They have no favorable reports to make on roentgenotherapy for simple goiter and generally advise against it, but for exophthalmic goiter the majority regard it as fully equal to any other therapeutic method. The thyroid subsides under it, and likewise the specific Basedow symptoms, the exophthalmos, tachycardia, other symptoms on the part of the heart and nervous system, while the general health improves and the patients gain in weight. Krause urges routine histologic study of thyroids when they are removed or inspected at necropsy after exposures to the Röntgen rays.

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ORIGINAL ARTICLES

WEARING GLASSES.

By DUDLEY S. REYNOLDS, Louisville.

Whilst it is a matter of history that spectacles were invented by Friar Bacon, and first used by him in 1283, and that, several of his associates and personal friends used them afterward, no attempt was made to adapt them to the uses of young people for more than five hundred years.

John Kepler, in 1601, discussed the value of concave lenses for correcting myopia, and taught the world a simple and easy method of making lenses.

Occasionally we read of a person who was near-sighted, and who aided his vision for both near and distant objects by the use of concave lenses.

The first hint of astigmatism as an optical defect in the eye is contained in Dr. Thomas Young's essay, published in the Philosophical Transactions for 1793. The astronomer, Mr. Airy, in a communication to the Philosophical Society at Cambridge in 1827, described compound myopic astigmatism in his own eye. Mr. Stokes, in a report to the British Association for the Advancement of Science, in 1849, described the use of cylindrical lenses in determining the degree of astigmatism; while Dr. Goode had reported a year previously, some cases of astigmatism.

Mr. Wells, the astronomer, in 1811, reported in the Philosophical Transactions his discovery of hypermetropia in his own eyes. On November 19, 1812, Mr. James Ware presented to the Royal Society some observations relative to near and distant sight for different persons, for the first time inviting atten-

tion to the fact that, "young persons sometimes have such a disproportionate convexity of the cornea, or crystalline, or of both to their distance from retina, that a glass of considerable convexity is required to enable them to see distinctly both near and distant objects."

With other observations following in rather rapid succession, Dr. Wm. Kitchiner, of London, published a little book entitled "The Economy of the Eyes," which was reprinted in this country by Wells & Lilly, and E. Littell, of Boston, and Philadelphia, in 1824. Dr. Kitchiner says, "Everybody is in want of information as to how to choose spectacles, and nobody has given it;" therefore, he endeavors to render it easily attainable, as it is universally desirable. The sight cannot be perfectly suited unless each eye negotiate for itself. In discussing the question of age, he says, "the common opinion that there is an invariable rule that a certain glass is calculated for a certain age is a vulgar error," and that, "no rule has more exceptions than this." He discusses such glasses as were being advertised at that time, under the name of "Sympathetic Pebbles," which were warranted "to alter as the sight alters." Says he, "A single-glass, set in a smart ring, is often used by trinket-fanciers merely for fashion's sake, by folks who have not the least defect in their sight, and are not aware of the mischievous consequences of such irritation; this pernicious plaything will most assuredly, in a very few years, bring on an imperfect vision in one or both eyes." This no doubt, is the origin of the monocle, which English snobs and cockneys still use in public places.

It is not an uncommon thing to find in the advertising pages of the newspapers an ac-

count of "X-ray glasses," "glasses made of diamond dust," "magnetic glasses," and many other kinds of impossible lenses.

About the time Kitchiner's book appeared the elder Sichel, of Paris, published a guide to the use of spectacles, which became very popular. The astronomers and mathematicians may, however, fairly be credited with the discovery and elaboration of those principles of science upon which all our knowledge of spectacles is based.

The subject of refraction and accommodation of the eye was first brought to the notice of the medical profession in an elaborate treatise by Prof. Donders, of Utrecht, in his immortal essay written for the New Sydenham Society of London, and published in 1864. Donders defined principles, and established rules of conduct in the determination of errors of refraction in the human eye, which are now recognized and followed throughout the civilized world.

Passing over the question of plain, spherical, cylindrical, and mixed aberrations of refraction, the general profession of medicine must recognize the modifying influences of certain diseases, and be able to determine who may and who may not with advantage wear spectacles. If no contraindicating disease exists in the eye of the person having an error of refraction, the question of the correcting lenses, and their proper adjustment remains to be determined. An intimate knowledge of the functions of the normal eye can alone enable one to comprehend abnormal conditions. Some knowledge of the principles of therapeutics is necessary to enable one to suspend the function of accommodation in the eye, in order that, its refracting media shall be in a state of quiescence while the test of refraction is being made.

It has been determined that the eyes of all persons under forty years of age must be measured for parallel light; that is to say, light emanating from an object placed at 20 feet, English measure, or 6 meters, French measure; and, that the relative acuity of visual perception is determined at the same time by securing objects of definite size, to be seen at an angle of 5 minutes, or any multiple of that angle up to 60 at that distance. No other distance, and no other size of test object may be substituted without destroying the value of the test. Excepting in such cases as the eye may not be able to see the largest of the test objects at six meters, then the greatest distance at which the No. 60 test object can be seen, with correcting glass, expresses the numerator of the fraction whose denominator is 60; as 3-60 would indicate three meters as the greatest distance at which that object is seen.

It will not do to have a shorter distance with a relatively smaller sized object, as the value of parallel rays of light is definite, and not comparative. With the adjusting power of the eye completely suspended, the lens required to develop normal acuity of visual perception, under these conditions, represents the exact amount of the error of refraction in that eye, and will be the lens which it is necessary for such an eye to wear in all cases of hypermetropia, or of plain astigmatism, for all distances.

It was formerly believed the hypermetropic eye required correction of near objects only. For persons making little use of the eyes for near vision, as for example, the common laborer, this may be true; but, for students and others given to habits of study, and for artisans engaged in constant work, it will soon be found a full correction is required. Many persons do not require accurate vision, and not being able to appreciate the nice distinction and refinement of clear vision in the details of small objects, may even be better satisfied with complete or imperfect correction of errors of refraction; so that the personal equation of each individual must be considered in determining the adjustment of glasses.

For the comfortable use of glasses, however, and to secure the best results, it is necessary the disc should be large enough to prevent its rim from obscuring the field of vision. It must be set in such a manner that the plane of its main surface shall lie at right angles to a line drawn from the eye to the object looked at, and the two glasses must be carefully adjusted with reference to the distance between the pupils of the eyes, so the two eyes may enjoy equal advantages in looking through the lenses. If the lenses be set high, and the eye be turned so that the general plane occupied by the lenses shall not be at right angles to the visual line, inharmonious muscular action will soon result in a sense of fatigue in the eyes, and the use of the glasses will be unsatisfactory. It is just as essential that the proper adjustment of the lens shall be secured, as that the proper lenses for the correction of refraction shall be determined.

Allowing that, in the choice of lenses, proper rules for the determination of their necessity have been observed, even the lenses with which the test had been made, may be defective in construction. Every case of test lenses as it comes from the manufacturer is found to contain from 10 to 20 per cent. of defective lenses, so it is necessary that even the test case itself should have every one of its lenses subjected to measurement by Snellen's phakometer, or some other phakometer which measures, not the curvature of the surface of the lens, but is refracting properties. The practitioner who prescribes glasses should al-

ways have his patient return with them for measurement, in order to see that no mistake has been made either in the grinding of the lenses, or their adjustment to the patient's eyes.

Many of those suffering from a variety of the neuroses, which harass and annoy the general practitioner of medicine, are subjects of errors of refraction. The neurologist will tell you some of his most obstinate cases are relieved by the aid of the ophthalmologist. In fact, the correction of errors of refraction in the eye relieves some forms of mania.

Most of the cases of muscular imbalance in the eyes are the result of wearing unsuitable or improperly adjusted glasses. Shall we wonder at this when we reflect that large numbers of people go to the jeweler's clerk to obtain their glasses; or, to one of those persons who calls himself an optician, whose office is upon some thoroughfare, in the department store, or at the entrance to the theatre, at the state fair, or in the public park. It should be known that spectacles are optical instruments, requiring great care in their selection, and most painstaking accuracy of adjustment, and that they are not to be worn by persons having certain diseases, either of constitutional or local origin, in the eyes.

Wearing glasses is quite a serious business, and should never be undertaken without competent medical advice. We often see a rheumatic person, poorly nourished, and harassed by the ordinary problems of life, going from one jeweler to another buying glasses, and in a few weeks this person is laid up with a visually fatal attack of glaucoma, or it may be a retinitis hemorrhagen. Persons with slight errors of refraction might get on comfortably enough until some constitutional debility renders muscular effort somewhat difficult. The patient may put on glasses, which apparently improve the sight, and go on with chronic nephritis until finally organic retinal changes forces the victim to consult a specialist, who may, too late, discover evidences of the advanced renal lesion. Ophthalmoscopic examination may disclose the first evidence of arterio-sclerosis, of intra-cranial disease, or of previously unsuspected syphilis. It has often happened in my experience to discover the presence of serious constitutional diseases in persons whose first ground of complaint was in relation to failing sight.

A large volume might be written on the subject of the choice of glasses, leaving out of consideration entirely the mathematical aspects of the question. It is my opinion every general practitioner of medicine should be able to make use of the ophthalmoscope for diagnostic purposes at least, and be able to know therefore, the difference between those symptoms of fatigue in the eye due to errors

of refraction, and organic changes of the retina in chronic nephritis, and other diseases presenting ocular symptoms.

Hypermetropic patients having full correction, may safely go on without change of glasses until past the age of forty, perhaps until forty-five years of age. At that time the emmetropic eye and the hypermetropic eye will exhibit evidences of presbyopia, when a change of glasses for near objects becomes necessary. In most persons of studious habits, or others making much use of the eyes for near vision, changes will now be required every two or three years until the age of fifty, or fifty-five, when the entire function of accommodation will usually be found to have ceased, thus terminating the ordinary course of change of refraction. The astigmatic eye of the hypermetropic type will likely need less frequent changing, because of the athletic accommodating power usually found in astigmatic eyes. In the myopic eye, where near objects may be seen at a distance of fifteen inches, no correction for near vision should be allowed, excepting alone in cases of myopic astigmatism. The subject of this defect of refraction may wear the same glasses for both far and near vision for an ordinary lifetime. There are, of course, many exceptions to this rule, but in a majority of cases it will hold good.

There are so many modifying conditions, and there is so much scientific detail involved in the determination of errors of refraction in the human eye, that no persons excepting a well-qualified physician should be intrusted with the performance of this important service to afflicted humanity.

DISCUSSION.

Adolph O. Pfingst: Dr. Reynolds' has given us a very learned paper on the history of glasses, something that I am free to confess I am not very familiar with. It is very interesting to learn how the wearing of glasses started and has progressed up to the present time. I agree thoroughly with Dr. Reynolds in what he says about the promiscuous fitting of glasses. It is not only the layman who goes to the optician or the druggist for his glasses, for I have known of doctors securing glasses at dry-goods stores, and at jewelry stores. This is harmful not so much because of the actual harm done by the glasses, but cause the patient is made to feel safe, and thereby loses valuable time before securing proper lenses.

The optician will tell the individual that it may take a year or more to get used to wearing the glasses, but that he must persist, and he will perhaps go along for two or three years when there is really some serious condition that is responsible for the impairment of vision, such as Bright's disease, etc.

Glass-wearers can be divided into several classes, one of which is composed of those individuals who wear glasses to bring about an improvement in vision, near-sighted and astigmatic persons, and these individuals wear their glasses at all times, for both distance and close work.

Another class is made up of individuals who must have glasses for muscle unbalance. Right here I would like to say that I believe a great deal of prejudice exists among the laity in regard to wearing glasses. It is not an uncommon thing for a mother to come to us and say—"Doctor, I have a child that is cross-eyed, but I do not want him to wear glasses, as he is too young." Others will say that they would rather have an operation and get through with it than to have the child wear glasses. The truth of it is, if we have an individual with a high degree of hypermetropia and squint, and operate during childhood, the time will come later in life when he must wear glasses for optical purposes, which may then cause a divergent squint, or a "cock-eye" in stead of a cross-eye. Many parents do not want their children to wear glasses, and this must be explained to them.

A third class is composed of those who wear glasses for therapeutic reasons, to relieve headache, or various reflex disorders. Hysterical individuals are frequently relieved of symptoms by wearing glasses, even though the error of refraction is very slight at times.

Another class is represented by the presbyope, or the individual who wears glasses because the elasticity of his lens will not allow it to accommodate at the ordinary reading distance.

Still another class is composed of those who wear glasses for show, as you know it is not uncommon in England and Germany, especially among the army officers, to see them with a monocle before one eye.

I want to say again that I have thoroughly enjoyed the doctor's paper and have gained a great deal of information.

M. L. Ravitch: I would like to call attention to one point that Dr. Reynolds missed. He mentioned the stomach man, the surgeon, and the neurologist, but he left out the dermatologist. It is a fact that a good many cases of alopecia areata, in which the parasitic type can be excluded, may be relieved by wearing glasses.

Last year I saw a lady, who is a school teacher, with two spots of alopecia areata over her temples. The condition resisted every form of treatment I could think of. Inasmuch as microscopic examination showed no parasites, I came to the conclusion that the trouble was of non-infective origin, and put her on tonics and what-not, but still the condition did not improve. Upon going carefully into her history I found that her eyes had been giving her some trouble and sent her to an ophthalmologist, who fitted her with glasses and, somewhat to my surprise, the hair began to come back in. I looked up the litera-

ture and found that a good many cases of this kind had been cited, and it seems that alopecia areata over the temples, where the parasitic type can be excluded, is very often due to defects of the eyes.

N. D. Abell: I think we have had a very brilliant paper and I have appreciated it very much, as well as the discussion. Some few points have been brought out with which I do not exactly agree. If I understood the essayist correctly, he said that cases of myopic astigmatism should use the same glasses for reading and distance all through life. I disagree with him here, because after they reach as much as 3 D., total presbyopia, it is necessary for the glasses to be changed, usually, for best results, and in progressive myopia.

Again, the essayist said, if I did not misunderstand him, that some persons go into stores and get glasses of different dimensions and, after wearing them for a while, their eyes cross, and they have more trouble. I am not in favor of promiscuously selecting glasses—I am opposed to it, as disense is often overlooked, but one question I would like to ask is, how is it that the glasses they get will cross the eyes? This is where I take issue. As a rule, the glasses they get are the same strength all around; they are always plus lenses, and I deny that they cross the eyes. I may have misunderstood the essayist and, if so, I would like to be set right upon this point.

Another question I would like to ask is, what percentage of operations for strabismus, or cross-eyes, are successful? Dr. Pfingst brought out the fact that quite a few of these cases will be relieved by wearing glasses, and I heartily agree with him that if the later methods of higher optics were used, nearly all could be straightened. I have taken cases that had been operated upon unsuccessfully, and when I got through with them their eyes were straight and O. K.

In regard to hysteria, I believe a great many of these cases will be helped by wearing glasses, as nearly all (98 per cent) need them and are hyperopic. I have heard reports of cases of bed-wetting in children being relieved in that way. I heard a physician here make that statement. He claims that correcting astigmatism will relieve them, and it seems reasonable to believe that removal of the eye strain may do it occasionally by lessening the nerve tension.

Dudley S. Reynolds, (Closing): I have been very much entertained by the discussion.

Dr. Pfingst asked me to interpret this prescription for bi-focal lenses for the benefit of Dr. Harris. For distance, Plus 0.50 cylindrical axis, 90 degrees; for reading, an addition of Plus 0.50s, making this combination, Plus 0.50, 90 degrees plus 0.50s.

I would suggest that Dr. Harris put himself to the trouble of looking up a little of the liter-

ature on the subject of errors of refraction in the eyes. I do not know of any better literature than is to be found in the sixth and seventh volumes of Osler's *System of Modern Medicine*, recently published.

In regard to Dr. Abell's disquisition, he is the only person present this evening that I have heard say anything about glasses producing squint, or crossing people's eyes. I said nothing about it, nor have I heard Dr. Pfingst or any one else say anything about it. Furthermore, I did not say that people with myopia might wear the same glasses for distance and reading. I said myopic astigmatism—not spherical myopia—and distinctly stated that cases of spherical myopia able to see distinctly at fifteen inches, should be allowed no correction at all for near vision. Of course, such people could not wear the same glasses for both far and near vision, without injury to the eyes.

Now, as to Dr. Bruner's position that he prescribes glasses for those who want them. I make it a serious matter whenever any one consults me with reference to the use of glasses. I take care to determine, certainly and without doubt, the exact state of refraction in each eye, and if I find that no glasses are necessary, I so explain to the patient, and make the patient understand it. I take particular care to explain that persons who do not need glasses will be very much annoyed and harassed if they attempt to use them. There are no sensible people in the world wearing glasses for purely cosmetic effects, or for any other purpose except to correct errors of refraction, perceptibly and practically improving the sharpness of sight and affording better use of the eyes.

As to whether I prescribe spectacle frames, or the pinch-nose forms, I think I said somewhere in my essay that each individual is a law unto himself. The personal equation of each individual should be taken into consideration. There are people like our illustrious and lamented friend and colleague, the late Dr. William Bailey, the bridge of whose nose was high and broad, and whose pyramidalis nasi were particularly well developed, behind which the pinch nose frame might rest with scarcely perceptible pressure, and for such persons the pinch-nose form is most eminently suited. However, for a man with receding facial angle, and a thin-skinned, bony nose like mine, with a very broad and thin pyramidalis nasi muscle, which spreads out so wide that it cannot be tucked up at the edges, the spectacle frame is the only thing that will remain *in situ*. I have tried the various forms of pinch-nose frames, even including that patented humbug called the "Shur-On," and they would remain until a little perspiration formed under the point of pressure, or until I laughed, and then all of a sudden they would drop, and of course I am unable to wear them.

As to curing people's stomachs, or appendicitis,

or any form of disease, by the use of glasses, it is unanswerable and absurd; but reflex disturbances of the general system, operating indirectly through the central nervous system from eye-strain, can be benefited by glasses. A few cases of acute mania, now and then, are relieved, or even chronic mania may be relieved by the use of glasses. This only goes to show that the mania was brought on by constant harassment of the mind due to attempts to see objects. Upon taking away the source of the annoyance, the brain will become quiet, the hyperemic state subsides, and consequently the mental aberration ceases.

Now, as to the method of selecting lenses, the idea of anybody, no matter how intelligent he may be, under forty years of age, being able to walk into an establishment and select, even with the most painstaking care in the world, a pair of glasses that will fully correct his error of refraction, is ridiculous. Not until the accommodation of the eye is suspended, and it is placed in a perfectly quiescent state, so that the refraction of the eye can no longer, by any involuntary action, undergo any change, can a test of its refracting power be made with accuracy and certainty.

Now, how do we know when we have suspended the adjusting power of the eye. We have this fixed law, and that is the reason why no distance other than 20 feet or 6 meters should be adopted in making the test, using parallel rays of light, and determining by changing the lenses, what the patient can see. The patient is asked what is the first letter in the first line of the test card, then the next letter; then the last letter in the next line, etc. If the patient is able to see what is called 6-6 or, in English measure, 20-20, we have another card with smaller type, and we ask the patient if he can see any letters in the first line; what is the first letter? The second one? Can you name the third? When he has named two or three letters in that line, which constitutes the crucial test, we obscure that eye, substitute the other one, and determine what it requires to enable him to do the same with the other eye.

All this painstaking work is necessary to insure against mistakes, and the slight errors of refraction are more prone to create reflex neuroses than the graver ones, because the latter are so distinctly apparent that the patient himself feels that he has to have help for his eyes, while, on the other hand, he does not realize that the drawing sensation in his head—that peculiar kind of ache which strikes him somewhere in the temples, or in the top of the head and feels like it is drawing down the back of his neck—is due to his eyes. He realizes that something is the matter but does not know what it is. On the other hand, if he is conscious of the fact that he does not see small objects, or minute objects distinctly, he knows, by comparison with the people with whom he associates, that something is wrong with his eyes.

In regard to the manufacture of lenses, I want to say that our manufacturing opticians in the United States, greatly excel, in point of skill, nicety of finish, and uniformity of results, those of any other nation. The English astronomers and mathematicians evolved the great principles of the science of making lenses, and their adaptation to the correction of errors of refraction. The common people of England took it up first and we copied after them, and very shortly the Germans took it up to such an extent that it is said that a great many people in Germany are wearing glasses they do not need. I am unwilling to believe that statement. I have seen so few people willing to wear glasses, even when they are necessary, that I am unwilling to believe that many persons who suffer so little would wear them at all. I can understand how the snob will stick a monocle on his eye for effect; he looks like a man of great distinction and learning, he fancies, and pretends to see what is invisible to ordinary persons.

I thank you for your indulgence.

CLINICAL CASES AND SPECIMENS

SUPRAPUBIC PROSTATECTOMY.

By G. A. HENDON, Louisville.

I want it distinctly understood that I disclaim any purpose of using this theme as the vehicle of an argument for or against the suprapubic route to the prostate. I am neither an advocate nor an adversary of the suprapubic operation. I think that all controversies involving supposed advantages of the perineal over the suprapubic operation or vice versa are vain and futile.

That each operation has its place in surgery definitely secured, and their application as remedial measures depends solely upon two things:

1st. The pathology. 2nd. The experience and personal prejudices of the operator. The major portion of my experience in prostatic work has been with the perineal route. And I believe I can execute the operation with greater facility through the perineum than otherwise.

It would indeed be well if the application of the method of operation could be made to conform entirely with the pathology of the case in hand. But it is impossible to exclude the experience of the surgeon as a determining factor in the choice of methods.

It becomes our duty, however, to eliminate prejudice and preconceived opinions absolutely from the consideration of a choice of methods. With the importance of that end in view I have been reluctantly forced to admit that certain cases of prostatic hypertrophy can be

far better managed by the suprapubic than by the perineal route.

The burden of discretion falls upon the selection of the *certain* cases, which fare better if operated upon in a specified way.

1st. The fact is generally admitted that prostates which sit high in the saddle and are distinguished by a relatively exaggerated hypertrophy of the median bar, offer superior opportunities to the suprapubic method.

2nd. Cases in which immediate operation is demanded on account of retention of urine.

3rd. Cases in which it is difficult or impossible to introduce a guide into the bladder.

4th. Cases characterized by excessive hemorrhage.

I think that in all other cases the method of operation might properly be left to the individual experience and natural inclination of the operator. In connection with suprapubic operation my experience has made clear to me the fact that elaborate apparatus for drainage is superfluous. The main achievement of drainage is the prevention of clot formation inside the bladder. The danger of such a contingency is quite obvious. Should a clot of considerable size become infected with saprophytic bacteria sapraemia would likely occur therefore, I repeat, the chief object of post-operative drainage is to prevent such a disaster.

And if it were possible to obtain perfect hemostasis after the operation, no drainage need be provided for except via naturalis.

I have never had the courage that some operators have had to close the bladder completely without extra provision for drainage.

My practice has been to pack the bed of the enucleated prostate with gauze, sew up the incision of the bladder, all except a space large enough for the gauze to come through and act as a drain. The gauze is made to serve the double purpose of hemostasis and drain.

It is allowed to remain from 24 to 48 hours when danger of hemorrhage is generally considered to have passed. I have discarded tubes altogether in my suprapubic work.

At the time of the operation we introduce, through the urethra, a soft rubber catheter which is fixed in the urethra by a method that we shall describe, and serves all the purposes of the usual more elaborate provision for drainage.

During the 24 hours succeeding the operation a pint or more of a saturated solution of boric acid is injected through the catheter with a piston syringe every two hours.

This procedure goes far toward prevention of clot formation and cleanses the bladder of stagnant hemorrhage and operative debris.

After the first 24 hours the washings are repeated about four times a day for the next

two days; after that twice and then once a day.

The catheter is removed at the end of the first week and the patient is usually able by that time to void voluntarily.

I consider this urethral route of drainage a distinct advance toward simplicity in the post-operative treatment and a decided gain for the patient's comfort. It might be that my experience in this regard is unique, but I confess I have never been able to obtain satisfaction to myself or comfort for my patient through a system of drainage based upon the principle of syphonage.

My main excuse for offering this paper is to bring to your attention the advantages of the urethra as a means of draining the bladder.

It is simple. It is direct. It is natural. Heretofore the main obstacle in the way of its employment has been the want of efficient means of retaining the catheter in position.

This obstacle I think I have overcome in the following way: I have no doubt many of you have employed the same or a similar device but a description is quite apropos.

A rubber tube one inch in diameter and four inches long is split to within one inch of its extremity and the bifurcations thus formed are attached along the upper and lower surfaces of the penis, with James faced adhesive plaster. A catheter is introduced into the urethra and pinned with a safety to the projecting nozzle of the larger tube. The end of the catheter is allowed to rest in a urinal or other suitable receptacle to collect the drainage.

I shall not tire you with a detailed report of cases but will summarize by saying that I have met with three in six months in which the suprapubic method seemed to be indicated and was employed with satisfactory results and the matter of drainage disposed of in the manner heretofore mentioned.

The first case was one in which the passage of hemorrhagic urine was the most conspicuous feature. Rectal examination did not disclose any considerable hypertrophy of the gland. Bladder irrigation was practiced twice daily for several days in the hope of clearing the urine.

There was ample clinical evidence of enlarged prostate. The irrigations failed utterly to achieve the object for which they were employed. Thinking that possibly there was a papilloma in addition to enlarged prostate we elected the suprapubic route as the one that would give us better opportunities to visualize the bladder cavity. The hemorrhage had been so profuse we could gain nothing by a cystoscopic examination.

The patient was placed on a table in the Trendelenburg position. The bladder opened and a large, soft, succulent, somewhat

pedunculated prostatic tumor was seen. Its surface was covered with soft thickened mucous membrane richly supplied with thin vessels that bled to the touch. The mucous membrane was divided, the prostate enucleated and the bladder cavity packed with gauze to control the hemorrhage.

The next case was one in which no enlargement could be felt per rectum but the patient had been complaining for a period of two years. The symptoms I interpreted as prostatic hypertrophy although he came with a diagnosis of deep urethral stricture.

We were able upon the day of his arrival to pass a metal catheter but subsequently we found it impossible to get an instrument of any kind into the bladder. He suffered with complete retention.

The case proved, at operation, to be one of prostatic hypertrophy with exaggerated enlargement of the median bar.

This unusual enlargement of the middle lobe arrested the passage of instruments and laid the foundation of diagnosis of stricture.

The third patient was operated on suprapubically because the enlarged gland seemed to grow in an upward direction and did not appear to encroach upon the rectal space.

We were able to cystoscope this case and visualize the median lobe projecting like a mountain peak in an upward direction closing almost entirely the visceral meatus of the urethra.

DISCUSSION.

C. B. Spalding: While my experience has been rather limited, I am inclined towards the suprapubic route for one reason especially. We know that the urinary outlet is controlled by two things, the prostate itself and the urogenital diaphragm. If we go below, we are bound to destroy the greater portion of the prostatic urethra, and we are very likely to destroy the urogenital diaphragm, while if we go above, we can protect the latter because the prostate is above that. That is the best reason I know of for going above. Another reason is that when the prostatic urethra is removed from below it leaves a sacculation, and a sacculated puddle of urine will form, keeping the sinus open. This will not occur if you go above, because that space is not connected with the outside wound.

In regard to washing out the ureter, I think the doctor was very fortunate. I have had to wash out these bladders frequently, and I have never seen a catheter as small as a No. 10 take care of it. As far as packing the space with gauze is concerned, that is all right, but where the destruction of the prostatic gland approaches the ureteral openings, you are going to pack the ureters and interfere with a free outflow.

The amount of hemorrhage that will ensue depends upon the condition of the prostate, and the

hemorrhage is sometimes profuse; the bladder fills up with blood clots and it is necessary to give the patient another anesthetic, open up and drain. I think we should have drainage through the urethra and one tube above also, in the suprapubic route, so that we can throw water into the bladder and wash the clots out. We may be successful with some of these cases where there is not much hemorrhage and the tumor pedunculated with packing and a small tube, but in a case where the entire prostatic urethra has to be removed, we are going to have a lot of hemorrhage, and I do not believe we can control it by packing alone, but must have free drainage, and continual irrigation.

F. T. Fort: I believe in having a large drainage tube in these bladders. Pryor's method, to my mind, is the best one that has been devised. He uses a very large drainage tube in the suprapubic wound and continues irrigation for several hours. This brings about haemostasis and at the same time washes out the clots.

I agree with Dr. Hendon that, in the majority of cases the suprapubic is the best route. I know it is the best route for a novice. I have done several operations by this route and they have all been successful. I was a little afraid of the perineal route, because I felt that it was more dangerous.

Jno. R. Wathen: A number of years ago we used to argue about which was the best method of doing hysterectomy, abdominal or vaginal, and I think the same principle applies as to which is the best route, above or below, in doing prostatectomy. I have done a good many prostatectomies both ways, and I am sure that there are distinct indications for either operation. Hugh Young's method is the ideal one in selected cases; in other cases we have to follow other methods.

Young's conservative perineal prostatectomy is certainly the ideal operation in selected cases. Where there is stricture associated with the prostatic condition, where the prostate is small and hard to get to, where we have little hidden pockets of fibrous and inflammatory material, I think the perineal route is much superior; but where we have a large, solid, adenomatous prostate, rising high into the bladder and in all probability twice as large as the cavity of the bladder itself, and if this is possibly associated with stone, as many of them are, then by all means go above. It does not matter how we drain, so long as we establish good free drainage.

J. Hunter Peak: I am like Dr. Wathen in regard to the route to be taken in doing a prostatectomy; it makes very little difference what route we use if the case is selected. Where the middle lobe of the prostate is involved and we have complete stoppage of urine from that cause, or where a catheter or drain cannot be inserted as a guide, as in Young's method, it is perhaps far the best to go above. It does not make much

difference which way we take, if the technique is carried out properly and the enucleation made complete, removing all the glandular tissue, (because if any of it remains it will grow again) and at the same time controlling the hemorrhage. As far as controlling the hemorrhage is concerned, I am sure that it can be controlled much easier and more safely through the perineal route. If you have done a suprapubic operation, you may have hemorrhage into the bladder, and if you have done a perineal operation and injured the bladder wall (which is often done) you will also have hemorrhage into the bladder. In either case the principal thing is to prevent the formation of blood clots, which can be done in this way: Before the patient leaves the operating room, fill up the bladder with several ounces of normal salt solution, and after he is put to bed, establish irrigation for a few hours, or until all evidence of hemorrhage has ceased. Should it start again, re-establish irrigation, which will prevent the formation of clots.

In regard to the use of boric acid solution, I do not think it is necessary, and I am quite sure that I will never use it again. I remember one case sent to me for operation, in which irrigation with boric acid solution had been carried out prior to operation, and at the time of operation a considerable quantity of a mealy substance was removed from the bladder, which, to my mind, had some connection with the boric acid irrigation. I do not believe it is wise to use it because it may be precipitated.

The cases reported by Dr. Hendon are unique and I think he selected the wisest method of operation in the cases he mentioned.

Hugh N. Leavell: I think Dr. Hendon got a very unusual result in the way of drainage with such a small catheter.

One danger that I think has been overlooked, particularly in connection with the perineal route, is that of getting into the rectum. I remember hearing Dr. Will Mayo say that an operator would get into the rectum twice in every twenty-five cases, and that he had had his two experiences of this kind in the first two cases, after which he did not use the perineal route any more, doing the others entirely by the suprapubic route. In my first case I was fortunate enough to get a nice hole into the rectum and it has not closed up yet. Fortunately, the man has a very good sphincter and can urinate and defecate through the same opening without any great degree of discomfort. Even with the conservative perineal prostatectomy advocated by Dr. Hugh Young, it is a very easy thing for a man who has not done several thousand prostatectomies to get into the rectum.

In regard to drainage, I do not believe that gauze, in the majority of instances, is sufficient to carry away the blood clots. Like Dr. Wathen, I prefer to have a good large tube in there.

I do not believe the use of boric acid is wise,

because some of it will be retained and may become a means of infection, or a nucleus for the formation of stone.

Irrigation, established at once and kept up continuously for 24 to 48 hours, or as long as the return shows any blood clots, is, I think, essential to success in the after treatment of suprapubic prostatectomy.

C. B. Spalding: I did not mean to make the statement that we should not at all times use our better judgment as to the best route to take; I merely said that the suprapubic route is the better one as a rule, and when in doubt go above. I believe there are indications for the other route, but the great objection to it is this: There is a great deal of difference in taking out a prostate gland and getting the patient home, and taking out a prostate gland and getting the patient well. I can point out some four or five cases in this State, that were operated upon by Dr. Young himself, who are to-day wearing urinals. That is, to a certain extent, a successful operation, but not as successful as it would have been had the patient's urinary control been preserved, and I believe there is a better chance for the patient to retain urinary control by the suprapubic than by the perineal route.

G. A. Hendon, (Closing): I did not mean to convey the idea that I believe the suprapubic route to be preferable to the perineal route. If any one had asked me the general question as to which was the best way to do a prostatectomy, I would unhesitatingly have said by the perineal route. I have done more that way and the results have been very satisfactory. What I tried to do in this report was to call your attention to those cases in which the suprapubic route is the preferable one. No one can say that either is better than the other as a general proposition; the method must be suited to the case in hand. Why do we drain the bladder? To get rid of the blood clots and to avoid sepsis. If you clean the bladder beforehand you are not running any danger of sepsis. If you do the operation properly you are not running any danger from hemorrhage. When I saw hemorrhage, I mean hemorrhage that will jeopardize the life, or affect the condition of the patient. It is the simplest thing in the world to make an opening in the mucous membrane of the prostate, on its upper border, and then, following the line of cleavage, pass the finger under the mucous membrane and proceed down over the prostate and then along each side. I have never had any trouble in finding that line and following it and emulating the prostate, unless it happens to be a malignant condition, in which event we can do no good anyhow. When the prostate is enucleated in this manner, the mucous membrane falls down into the bed of the prostate. The gauze is packed on top of the membrane and does not come in contact with the raw surfaces. Of course, there is going to be a certain degree of hemorrhage, but

irrigation every two hours the first twenty-four will keep the hemorrhage liquified and prevent the formation of clots, and as long as the blood is in a liquid state it will flow through a No. 10 catheter. Then the gauze is there to serve as a guide to the site of operation in the event of any emergency, so I do not see why anyone should dread hemorrhage under these circumstances.

Another point is this: I close the bladder right up to the point where the gauze comes through, with a catgut mattress suture. Then I close the abdominal incision with layers of catgut, and close the skin with horse-hair sutures. Now what is the advantage of this? Just as soon as the gauze is taken out the wound begins to heal, and ordinarily, at the end of a week or two weeks, it has absolutely healed, and you do not have one of these preambulating privies walking around. What you want to do is to put the patient back in as nearly as possible the same condition in which he was before he got sick, and if you close the wound with the object to promote healing, it will heal, the fistula will close promptly and the patient will go home voiding urine in a natural manner.

NEPHROLITHOTOMY.

(REPORT OF CASE.)

By H. H. GRANT, Louisville.

Patient, a male, 35 years of age, was sent to me with a diagnosis of appendicitis of two years standing. Upon examination I found that a good deal of his pain was referred to the region of the kidney and, although he was somewhat tender over the appendix, the pain was located in the region of the ureter rather than directly over the appendix. At any rate, the history of attacks of colic (presumably in the kidney,) and the fact that tenderness was marked over the right kidney, led me to advise an examination of the urine and an X-ray photograph. The urine, on two examinations, showed distinct evidence of blood. There was no evidence of kidney disease aside from the fact that the urine contained some albumin, probably due to the presence of blood. The X-ray picture, which was made by Dr. Bruce, disclosed the presence of two stones, which were believed to be located in the pelvis of the kidney. A control picture was made which confirms the diagnosis, and this in connection with the findings by other forms of investigation, led us to operate on the man. I had the valuable assistance of Dr. Sherrill at the operation. The operation was done in the usual manner, by an oblique incision, beginning at the margin of the ribs and carried downward and slightly outward so as to make a pretty large exposure. This patient was five feet seven inches in height and weighed 180 pounds; he was rather bulky

and had a good deal of fat. Some little difficulty was experienced in getting the kidney out where it could be easily handled. No stones could be felt in the kidney after it had been exposed and the capsule peeled away. With an assistant pressing upon each side of the kidney to control the hemorrhage, a free incision was made and we were able to remove these four stones, which are illustrative of how much material of a destructive character may be present in the kidney without any distinct indications of its presence. But for the findings upon X-ray examination, we might have hesitated to split open a kidney as sound as this one apparently was. The hemorrhage which followed the incision, while not dangerous, was sufficient to require packing which was introduced in such a way as to come between the kidney structure and the capsule, pushing the capsule down and making direct pressure. No sutures were introduced, as it was believed that the packing would be sufficient to hold the kidney together.

This man had rather a severe reaction, but made a satisfactory, though gradual, recovery, and at the end of ten days he was able to be up. A sinus remained however, and a fistulous tract, with the escape of more or less urine for about eight weeks. He went home at the end of three weeks and this sinus gradually closed up. Four weeks later he wrote me that the sinus had closed and he was completely restored to health. Three weeks afterwards, however, he telephoned me that he was in great pain and that he believed he had another stone in his kidney. He stated that there was considerable swelling and I advised him to have his physician open in the region of the sinus, which was done and a considerable amount of urine escaped. It contained no pus, but was simply urine that had become blocked up in there and formed a little puddle, causing the pain of which he complained. This occurred a second time, two weeks later, and this time he had it opened without communicating with me, and I learned of it subsequently. Within twelve weeks after the original operation the sinus had permanently closed. More than a year has now elapsed since the operation, and he has been perfectly free from pain or distress for at least nine months.

The interesting features in this case are: First, for two years this man was believed to have appendicitis and, although he was quite regularly under medical observation, correct diagnosis was not made until attention was directed to the kidney. Second, the fact that these four stones, which are sharp and jagged, remained in the kidney for a year or more (possibly two years) without producing any structural disease of the kidney, or, at least, not enough to produce pus or any pathological

condition that could be observed when the kidney was split open, except the trauma caused by their attempts to get through the ureter, which caused the pain.

DISCUSSION.

Jno. B. Wathen: I think Dr. Grant is to be congratulated upon his very early and accurate diagnosis in this case. Too often we make the mistake ascribing pain to some condition other than that which really exists, and probably operate for appendicitis or gall-stones, when in reality we are overlooking an early case of nephrolithiasis. The X-ray technique of to-day is so perfect and the danger so little, that in the hands of one familiar with the work diagnosis of such conditions as this is almost positive, and especially is this true in adult life, where we do not have to deal with pure uric acid stones. If we allow these cases to continue and make diagnosis only when the patient has a large pyonephrotic kidney, it is too late to get the best results from operation because the kidney is more or less completely destroyed, whereas, if we operate early, we can save the kidney.

In regard to the operative technique, there are one or two points upon which I would like to take issue with Dr. Grant.

In splitting the kidney, all hemorrhage can be avoided by opening, not through the kidney substance itself, but through the pelvis of the kidney, carefully suturing the hyperstructure and covering it with the little sheet of fat we find at this point. In this way we get complete closure and avoid a fistula. In suturing the kidney, I think we cannot do better than to follow the technique of Dr. Halsted, of the Johns Hopkins Hospital. He introduces a dull needle, or rather a probe, right across here (illustrated on blackboard), then brings the suture up and cut over the top of the kidney, allowing these sutures to remain on the outside of the capsule. It is a clumsy looking stitch, but it will absolutely prevent all hemorrhage. In this way the raw surfaces are brought together with strands of catgut, and the hemorrhage is absolutely checked.

Berger, of New York, has recently demonstrated a beautiful technique for the removal of stones lower down in the ureter, which are often associated with stones in the kidney. His technique for these deep stones, which we should never overlook, is to make an incision just as we do for an appendectomy, then go in and trace the ureter down over the rim of the pelvis to the bladder. If he finds a stone just in front of the opening into the bladder, he marks it and then, stripping the peritoneum back, goes down outside of the peritoneum removes the stone, and then closes up the peritoneum. It is a transperitoneal operation, and yet it is extraperitoneal.

In conclusion, I wish to heartily congratulate

Dr. Grant upon the fact that this sinus closed up, because it is the experience of most operators that these sinuses very rarely heal. Watson and Cunningham have devised a very ingenious arrangement by which the patient wears a tin can in the back, and they wear it for life, as a rule, unless the kidney is taken out.

H. H. Grant, (Closing): I think the incision made in this case is really the best for exploratory purposes. Where stones are present in the pelvis of the kidney they may be very easily reached by making an incision into the pelvis from below, but in many instances the stones are in the structure of the kidney itself and cannot be reached in this way. If the X-rays had shown this to be one large stone in the pelvis of the kidney, I would have sought it there, but even when we had the kidney out we could not feel it there, so I believed the wisest course was to make a free incision and expose the central portion of the kidney.

I believe that suturing in the manner suggested by Dr. Wathen would have been an advantage, because it would have helped to control the hemorrhage which was, in a degree, troublesome. While it was easily enough controlled by packing, still I would rather not have put packing in if it could have been avoided. Suturing was not done because we believed that packing would control the hemorrhage quicker than the other way.

As to the persistency of these sinuses, my knowledge of the literature and my own observation differ somewhat from those of Dr. Wathen. I think these sinuses nearly always close. Occasionally they do not, but in such cases it means that a stone has been left in the kidney. If the stones are all removed, these sinuses, like sinuses or fistulae elsewhere in the body when a foreign body is removed, will heal. In the majority of cases, except tuberculous conditions, these sinuses heal very promptly.

REPORT OF CASES.

By LOUIS FRANK, Louisville.

CASE I.—SARCOMA FOLLOWING TRAUMA.

I present this case merely to show the strength of the abdominal wall following excision of the fascia, and because of the fact that two years have elapsed since the operation for the removal of a sarcoma following trauma in this region.

In December, 1909, while playing, this child suffered a fall, striking her abdomen on a clock that was lying on the floor. Shortly afterwards a swelling was noted in the abdominal wall, but the skin overlying it was not discolored. At first it was tender to the touch. The tumor increased in size and then gradually became smaller. In the latter part of

January this patient was seen by Dr. Solomon, who later referred her to me. He had had some one else see her, and temporizing had been advised, which was followed, the child being put on syrup of iodid of iron, or something of that sort, in the meantime.

I saw the child in April, 1910, with the above history. The tumor had then begun to grow again, and was slowly increasing in size. It was not tender. The skin overlying it was not fixed to the growth, but the tumor itself seemed to be fixed in the tissues. I believed the child had a sarcoma, but did not want to commit myself until some of the tissue had been subjected to an examination. On April 21st, 1910, with this diagnosis, I made a two-inch incision over the tumor, in the line of the right rectus, below the umbilicus, and the growth, the size of a small egg, adherent to the right rectus, was removed. It was supplied by only one blood vessel. A suture was placed in this and the skin wound closed. The tumor was sent to Dr. Field, who made diagnosis of sarcoma, probably beginning in the fascia. This was communicated to the parents and a secondary operation advised. The reason wide incision was not made primarily was because I feared I would not be able to bring the fascia of the rectus together. On April 25th, four days later, a second operation was done under gas anesthesia, in this manner:

Taking the old seat of the growth as a central fixed point, a diamond-shaped area was marked off on the skin, the angles being about two inches from the central point, i. e., the distance between the opposite angles was about 4 inches. This incision was carried down through the fascia and a superficial portion of the muscle, enabling us to completely excise the seat of the original growth and its fascial attachment, as shown by microscopic examination. After splitting slightly the superior and inferior angles of the fascia, we were able, by this character of incision through the tissues, to approximate the edges of the fascia completely, notwithstanding the fact that, toward the mesial side, a portion of the fascia of the opposite rectus was cut away.

Union, with the aid of silk worm gut sutures, was by first intention, with only a small amount of deformity.

The child still has a slight deformity, but there is no weakness of the abdominal wall, and I do not believe there is much likelihood of a recurrence.

The subject of trauma as a cause of sarcoma or carcinoma is a very interesting one. It was gone into very thoroughly by Coley at the meeting of the Southern Surgical Society in Nashville last year.

CASE II.

About nine months ago I saw the brother of a young woman who is a nurse in this city, after his return from the West, with a fracture of the upper third of the thigh. He was progressing nicely and I was called to remove the dressing. I saw no more of him until the early part of last winter, when I was asked by Dr. Fleischaker and Dr. Tuley to see the man again. He had apparently recovered and was up walking about, when he had a recurrence of pain and discomfort at the site of the fracture at which point there gradually developed an enlargement. I made a diagnosis of sarcoma, and an X-ray picture was made by Dr. Bruce. At the time the patient came under Dr. Fleischaker's care the growth had attained extreme size and removal was out of the question. He died about six weeks ago. No autopsy was permitted, but I am satisfied he had a sarcoma arising at the point of fracture. He suffered a secondary spontaneous fracture before his death.

I do not recall having seen a case, aside from these two, in which sarcoma followed so rapidly after the injury, although we get an indefinite history of injury in a good many cases. I have seen cases of cancer of the breast where there was a history of an injury to the breast, but I have never seen any other cases with the relationship of injury as a cause so well-defined and clear-cut as in these two.

CASE I.—GASTROPTOSIS.

Mr. E. E. F., seen in October, with Dr. Buckner, of Shelbyville; had suffered much at the hands of many men for some time. He was a very neurotic individual, as most of these cases are. I was called to see him because the man was actually starving to death, and they desired to know if anything could be done for his relief in the way of opening his stomach and feeding him in that way. He was a typical gastropototic patient, with a very narrow waist compared to his size, and a very much diminished upper abdominal capacity. The measurements were not taken, but the history he gave was about as follows:

Chief complaint, loss of weight, weakness and starvation. Age 28; farmer; had always led a very regular life, devoid of dalliance with Venus or Bacchus. Mother and father living and well; also three brothers and a sister. Weight 152; height 6 feet 2 inches. About three years ago began to show digestive symptoms and feel weak; no vomiting. About a year ago began to lose weight and has lost probably thirty or forty pounds. Appetite very poor; bowels constipated during the past four years. Physical examination showed conditions which are probably best explained by the X-ray picture exhibited herewith.

The stomach was very markedly displaced downwards, the upper border being about 1 1-2 inches above the umbilicus and the lower border four inches below, or practically lying in the pelvis. The transverse colon was also lying in the pelvis. Above the umbilicus nothing could be felt. Both kidneys were mobile, but not to a very marked degree. This is very striking in a case with such marked gastropotosis and enteroposis. Furthermore, there was no descent of the liver. Blood count, 4,500,000. He had quite a good deal of food retention and suffered a great deal from this and from absorption of decomposed products.

I believed that the best thing to do for this man was to fasten up the stomach and do so as much as we could at one operation. He was brought here about the time of the meeting of the Mississippi Valley Medical Association in Nashville, and two gentlemen from England and one from New York, who were on their way to that meeting, saw him and were very much interested in the case.

The abdomen was opened and Bexes' operation done, consisting of plication of the gastro-hepatic omentum, the stomach in this way being lifted well up. One suture was also taken to fasten the stomach to the round ligament. The colon was then brought up and the gastro-colic omentum also plicated. Four or five layers of sutures were placed in the gastro-hepatic omentum and two layers in the gastro-colic omentum.

He was kept in bed for a month, but began to improve decidedly in four or five days. I have heard from him in the last two or three weeks. He has gained in flesh and weight, and is up and about, although he does not work about the farm and does not ride. He is now wearing an abdominal support. He eats well, has no gastric disturbance, and promises to be a cure.

CASE II.

I have here another plate of a patient seen the other day, who has indefinite symptoms and upon whom I shall operate to-morrow. The plate shows the colon lying in the pelvis.

CASE III.

We recently operated on another case, which is probably too early to report. This woman had decided prolapse of the stomach and transverse colon, and what I thought were two mobile kidneys, one a floating kidney. Upon operation, however, what I took to be a floating kidney proved to be a wandering spleen, with a pedicle sufficiently long to allow it to be lifted out of the abdominal incision. The stomach and colon were fixed by plication, using also the round ligament. At first, I thought I would take the spleen out, but upon making an upper incision and sus-

pending the stomach and colon, there was sufficient peritoneal structure around the vessels in the pedicle to lead me to believe that the spleen could be saved. Therefore, it was fixed to the margin of the rib by three 20-day catgut sutures. The operation was done too recently to make any definite report as to the ultimate outcome. Of course, the patient was told that this spleen might again come down and, if so, its removal would be the only thing to do. The removal of the spleen would have been the easiest procedure, and the reason I did not do it was because it might be of use to the individual at some time in the future.

DISCUSSION.

E. T. Bruce: Just a word in regard to the radiography carried out in these cases.

In each instance the patient was first given a bismuth meal, consisting of about four ounces of bismuth to a pint of milk. This was given fifteen minutes before the radiograph was made. The patient was then placed upon the table in a semi-reclining position, allowing the stomach to sag down to a greater extent than it would in a horizontal position, and the radiograph taken.

The first picture taken shows what Dr. Bell, of New York would term typical "fish-hook" stomach. The greater curvature of the stomach was down in the pelvis, while the pylorus was practically in normal position. The shadow to the left in the first picture is that of the colon distended with bismuth, given in an enema.

The second and third pictures show the large intestine filled with bismuth, given in an enema containing half a pound of bismuth and a quart of milk.

Wm. C. Dugan: The case of sarcoma of traumatic origin is certainly a very interesting one. I would like to add to the record two cases of sarcoma that were undoubtedly due to trauma. One of these was a man who was employed to install the seats in the large amphitheatre of the Louisville Medical College. He used his right leg to force the benches into place, and in doing so he injured the inner condyle. The injury gave him considerable trouble for a while, and after he thought he had recovered from it, he noticed an enlargement at the site of the injury. It continued to grow until finally it was excised, diagnosis of sarcoma made, and hip-joint amputation performed. Microscopical examination proved the tumor to be a sarcoma.

The second case was that of a somewhat younger man who was operated upon at the Gray Street Infirmary for a very large sarcoma of the lower part of the femur, due to an injury received while at work as a section hand on a railroad. A lever fell across his leg and came very near breaking it, and this tumor developed right at the site of the impact. The diagnosis of sarcoma was confirmed by microscopical examination.

I report these two cases as further evidence of the fact that sarcoma may be due to trauma.

Guy P. Grigsby: I would like to ask Dr. Frank if he ever used the Coley fluid in the treatment of sarcoma? It would appear that the case he reported would have been a typical one for the use of the Coley fluid and I presume that the results would have been very brilliant. I have treated ten or eleven such cases under the direction of Dr. Coley, but, unfortunately, all of these cases were practically hopeless at the time treatment was begun, and all of them speedily died. In only two cases that I recall did we get any improvement whatever.

Coley, I think, asserts that in all operable cases of sarcoma, the use of the fluid is best, and Dr. Frank's case would have been a splendid one upon which to try the treatment, and the result would have been flattering to Dr. Coley. Some of these cases treated with the Coley fluid as a post-operative measure will recover—just as in this case. I am trying to make clear that I do not believe the fluid has anything to do with the recovery of the patient; in other words, I do not place much faith in the value of this fluid from what I have seen of it. Dr. Coley is very enthusiastic about it, and, like other men who advocate any particular theory, he has probably been too much carried away by the apparent results.

J. Hunter Peak: Five or six years ago I reported to this society a number of cases of bone tumors, some of which were malignant and some were not. I remember reporting three that were malignant, two of which were due to injuries and one was not. All three of these cases were operated upon and only one is now living. The case in which the condition was not due to injury died in six or eight months from what was supposed to have been pulmonary tuberculosis. However, I did not believe that she died of tuberculosis. In another case, amputation was done at about the junction of the middle and lower thirds of the femur, and about a year later this patient developed general involvement of the glandular structures of the body and died. The third case was also operated upon and is still in perfect health, six or seven years having elapsed since the operation.

One of the cases operated upon and reported at the time mentioned, was of the shoulder blade. As far as I know that girl is still in perfect health.

There is no question that malignant conditions often follow trauma. We do not know the exact pathology of it, but we frequently see malignant conditions developing at the site of old fractures, and not only malignant conditions, but other bone tumors. I agree with Dr. Frank that in nearly every case of malignant disease, there will be found a more or less definite history of traumatism.

Ellis S. Allen: I think Dr. Frank is especial-

ly to be congratulated upon the strong abdominal wall that this little girl has following operation. I am not at all surprised at the good result so far as non-recurrence is concerned. I think that, in sarcomatous conditions operated upon early, we should always expect good results. Rarely, in a case operated upon this early, do we look for dissemination of extravasation of the tumor cells out into the tissues. Sarcomatous growths differ from others in having a strong intercellular stroma that fixes the cells, one to another, whereas tumors of epithelial origin have no intercellular substance other than that which holds them together by agglutination; they are very destructive to cells with which they come in contact, and the cells which have degenerated get out of the way, so to speak, and the growth is disseminated out into the tissues especially in the direction of least resistance. The dissemination is early and rapid, very frequently traveling far and wide from the original location of the epithelial growth. Therefore, we do not expect good results from the removal of epithelial tumors, because we do not know widely they have become disseminated into the surrounding tissues. On the other hand, in sarcomata, this intercellular stroma holds the cells together, and rarely do we have any dissemination of the growth. This stroma, binding the cells one to another, is so strong that the tumor grows as a mass, and instead of dissemination we have a dissecting of the anatomical plane. In other words, a sarcoma begins as an encapsulated tumor, and only disseminates when the cells, by retrogression, growing so rapidly as to outgrow the intercellular stroma, are not so closely held together. Then we have dissemination, but, as a rule, sarcomata do not disseminate back into the structures; they grow away from them, in the direction of least resistance.

REPORT OF CASES.

By C. T. WOLFE, Louisville.

CASE I.—BILATERAL ABDUCTOR PARALYSIS.

James K., colored, age 49. Referred to me by Dr. Ray about 5 weeks ago with the following symptoms and history: That for several weeks previous to his coming he had some dyspnea which was aggravated by the least exertion. This was accompanied by a marked stridor during sleep. His voice was husky and an examination of his larynx gave the characteristic picture. The cords having assumed a fixed position in the median line with but slight opening between them during inspiration. There was no evidence of an acute inflammation. The epiglottis and mucous membrane was normal and the vocal cords white.

His urine was acid in reaction, clear, specific gravity 1022, no sugar or albumen.

Heart and lungs showed nothing abnormal.

He is a waiter by occupation and a moderate drinker. Gives a definite history of syphilis. Family history is negative.

The act of abduction is performed by the posterior crico-arytenoid muscles and in the majority of all cases lesions affecting these muscles are central in origin and arise from changes which are brought about by syphilis, bulbar paralysis and tubes dorsalis. However, instances are on record and one cited me by Dr. Ray in which bilateral involvement of the recurrent laryngeal nerves may be caused by pressure from goitre, aneurism, cancer of esophagus, etc. This man is improving markedly under mixed treatment.

CASE II.—HYSTERICAL APHONIA.

Mrs. K., white, age 40. Came to clinic February 9, 1912, with complete aphonia, having lost her voice suddenly. Three months previous to that date she was affected suddenly in a similar manner, but in that instance her voice returned in three days. The laryngoscopic examination showed that the cords approximated well in the anterior three-fourths of the glottis with the posterior portion remaining open leaving a triangular opening between the cords in that location which pointed to an involvement of the arytenoid muscles. The cords are white and movable with the exception of the incomplete adduction just referred to.

Both personal and family history are negative, except that she displays a very nervous temperament which may be due to the fact that she is nearing the menopause.

In this case we can eliminate a central and peripheral lesion from the fact that if we were dealing with a true laryngeal paralysis instead of an hysterical one, which is not a true paralysis, we would have an affection of the abductor muscles while in this instance we are dealing with an adductor affection.

I might add that since this case was a rather confusing one a careful physical examination of chest was made through the kindness of Dr. Wm. Jenkins, and the necessary steps taken to make the differential diagnosis by exclusion.

DISCUSSION.

J. M. Ray: With reference to the point brought out by Dr. Hall, I saw the demonstration by Dr. White, to which he referred. However, several years ago I read a paper before this society in which I reported a number of these cases. I happened to have on hand at one time, three cases of one-sided complete recurrent laryngeal paralysis, and in those cases I observed that when the head was turned very far to the paralyzed side, the patient could talk, but could not when the head was turned to the opposite

side. I made this observation and published it in connection with the report mentioned. Turning the head to the paralyzed side brings about practically the same condition as pressure upon that side.

The case of the colored man presented by Dr. Wolfe is a very interesting one. This man came to my office about seven years ago. Dr. Lederman saw him and made diagnosis of bilateral abductor paralysis. He obtained a specific history and put the man on iodid of potash. He went away and no more was seen of him until he came back about a month ago with that peculiar crowing sound. I looked into his larynx, saw the condition present, and asked Dr. Wolfe if he would not take charge of the case, which he did.

I think the chances are that this is not a complete paralysis. If it was, he would not be able to breathe as well as he does.

Lemon says that the abductor fibres are the ones that are most easily and frequently affected; they are the first to become paralyzed from pressure and the last to disappear when the patient gets well. This man has improved under iodid of potash.

I recall a case that I saw at the City Hospital, in a man who had a large aneurism of the aorta. He had bilateral abductor paralysis with stenosis. Dr. Rodman, who lived here at that time, was on duty at the City Hospital, and he did a tracheotomy. However, the patient was not relieved, and died in two or three days from rupture of the aneurism.

Gaylord C. Hall: I have had the pleasure of looking at these cases. The first case is particularly interesting. This man unquestionably has abductor paralysis, and I think Dr. Wolfe is to be congratulated in that he did not have to do a tracheotomy. Tubes is the most common cause of this condition.

The second case I did not have an opportunity to examine, because the patient closed the upper part of the pharynx, occluding the larynx.

There is one thing I want to call attention to, because it is not published in the text-books and I never heard of it until I saw it demonstrated by Dr. John C. White, of Richmond, at the meeting of the A. M. A. The point is this: In cases where we have an abductor paralysis, that is, where inspiration fails to draw the cords up, gentle and firm pressure backwards, over the cricoid cartilage, will relax those muscles, improve the voice, and enable the patient to breathe much better and easier than otherwise. Suppose, for instance, that we are dealing with a recurrent laryngeal nerve paralysis of, say, the left vocal cord. That cord occupies a position midway between abduction and adduction. The patient is hoarse because he cannot get true approximation of the vocal cord in the median line. Therefore, pressure on that side of the larynx will bring the cord into a parallel line and will result in immediate improvement in the voice, relieve

the dyspnea and enable the patient to respire much more freely.

To sum up, pressure upon the same side as the paralyzed cord, in paralysis of one recurrent laryngeal nerve, will produce immediate improvement in the voice. Therefore, if pressure on the left side produces such improvement, we know that the paralysis is on that side. If, on the contrary, pressure on the right side produces improvement in the voice, we can conclude that the right cord is involved.

Curran Pope: Speaking to the case of hysterical aphonia, it may not be uninteresting to ask ourselves the question: Why should this patient select a symptom such as aphonia as a manifestation of hysteria?

The question as to the selection of hysterical symptoms is entirely a psychic one, and oftentimes upon investigation of the hidden recesses of the individual's mind, we find that aphonia is really based upon the idea that it is not advisable for the patient to speak for fear of divulging some secret, or uttering some thought that may not be consistent with the ordinary ethics of society. That is often the psychic mechanism that brings about hysterical aphonia, though frequently it is accidental as many of them are. The idea comes to the patient something like this: "If I should speak thus-and-so, it will bring about trouble. Therefore, I should not speak it, and in order to be sure of not speaking it, I will lose my voice." Consequently the patient suffers from hysterical aphonia. Some may question this upon the ground that some powerful stimulus will often restore the voice, but when this occurs it simply means that something of a powerful nature has overcome the inhibition that the patient has exercised upon the vocal apparatus. It relieves the aphonia but it does not cure it. It simply drives the inhibition exercised by the patient out of the field and restores the activity of the voice for the time being, but that inhibition will come back, possibly in some other way. However, a powerful stimulus will often relieve the actual condition of aphonia.

C. T. Wolfe, (Closing): I do not know of anything to be added to the discussion. I have tried everything I know of to get this woman to talk, but so far my efforts have not been successful.

So far as the first case is concerned, I am ready at all times to do a tracheotomy, but the improvement under specific treatment has been so marked that I do not think it will be necessary.

Acute Mastitis.—Eicher states that at Basel the woman's breasts after the birth of a child are kept constantly covered day and night with a little pad of gauze moistened with a 4 per cent. boric acid solution. A piece of rubber tissue overlaps the pad and sticks to the skin, and a towel is then laid over both breasts. The pads are renewed each time after the infant nurses.

SOME ABNORMAL OBSTETRICAL CASES.

By THOS. K. VANZANDT, Louisville.

CASE I.

Mrs. T., age 35, multipara, third pregnancy.

DIAGNOSIS.

Twins, at full term. First stage of labor about 6 hours. First child, spontaneous delivery. About three hours later, because of almost continuous pains and inability to deliver second child, I was called in the case.

EXAMINATION.

Os completely dilated, membranes ruptured, liquor amnii all drained away with uterus contracted down tight about fetus.

POSITION.

Right scapula anterior with prolapse of arm and funis. Fetus dead, no pulsation in cord. Spontaneous version or spontaneous evolution out of the question.

Prognosis grave for mother if delivery was delayed. Hemorrhage, rupture of uterus and infection important considerations. External combined, or internal version impossible because of absence of liquor amnii and firm contraction of uterus.

Decapitation seemed to be in order. Before attempting this the following manipulation was tried with success. Tape tied to prolapsed arm. Hand full of sterile vaseline carried into uterus and fetus thoroughly anointed. Version followed by delivery was finally accomplished. Mother made uneventful recovery.

CASE II.

Mrs. W., age 20, primipara

DIAGNOSIS.

L. O. A. at full term. Pelvic diameters normal

Everything seemed favorable for timely expulsion of child but labor did not advance properly. Recession of head between pains and distress at placental site pointed to the possibility of a short cord. Version being contraindicated, membranes were ruptured, manual expression begun and the forceps applied.

Fetus still born, unable to resuscitate. Cord measured 11 inches. The position of cord in relation to fetus was of interest. Cord extended from umbilicus under right arm, over right shoulder, around anterior surface of neck and down back. Observation made at time of expulsion of shoulders. Necessary to cut cord in order to complete delivery of trunk.

CASE III.

Mrs. S., age 25. Primipara.

DIAGNOSIS.

R. O. A., at seven months gestation.

Seen first at 3 p. m., on Saturday. Complained of considerable pain in back and lower abdomen, headache, nausea and anorexia. Was very nervous. Both legs very edematous and abdomen unusually large. Cervix slightly dilated.

Sunday at 10 a. m. was called hurriedly "She's got hysterics."

Typical eclamptic convulsion at 11 a. m. Ordered to hospital at once. While preparing her for delivery, she had another convulsion.

Urinalysis: specific gravity 1010, albumin abundant. Pulse 150, pressure 170. Examination revealed the fact that the internal os had disappeared and the external os was dilatable. Accouchment force was therefore promptly done and delivery accomplished with forceps. Mother recovered without having another eclamptic seizure.

Living child, weight seven pounds. Child was edematous all over, pitting on pressure wherever touched. Urine loaded with albumin. Child died on the sixth day. Post-mortem by Dr. Boldrick.

Of chief interest were hemorrhagic spots in liver and marked degenerative changes in kidneys.

DISCUSSION.

Edward Speidel: I will discuss only the first and third cases. I do not see the object of the introduction of vaseline in the first case. I have had cases quite frequently in which the waters had completely drained away—in fact, I recall a case that I reported to this society, with an occipito-posterior presentation, in which the waters had drained away and the head was down on the perineum, and in spite of that I was able to return the head into the uterus and perform version without rupture. If you know your anatomy and have the patient completely anesthetized, with the labor pains practically in abeyance there is very little danger of rupture of the uterus if we proceed slowly. In a case of twin pregnancy, it would stand to reason that the fetus is small, and with a transverse presentation and the cervix fully dilated, I think it would be comparatively easy to grasp the foot and bring it down, and perform version. The danger of introducing vaseline in these cases is the danger of infection, which is one that is well recognized. Under those circumstances, I would put the patient in the Trendelenburg position, allow half a gallon of normal saline solution to flow slowly into the vagina and uterus, and with the distention that occurs the child can be easily turned. I have never resorted to that, however, because I have been able to do version in these cases without any danger to the mother in the manner just indicated.

I am not an advocate of **accouchement force** in eclampsia. My treatment is venesection, and according to recent literature, this is becoming more and more popular. Especially if we have the patient in a hospital, we can at once make preparations for the withdrawal of at least a pint of blood from one arm, at the same time introducing a pint of normal saline solution into the other arm. As a general thing, after this procedure, we have the convulsions under control. As a rule, we find that under the influence of the eclamptic condition the cervix is either dilated or dilatable. Therefore, if I find that the patient's condition demands it, I resort to manual dilatation and version—all under surgical anesthesia.

I do not believe in the application of forceps at the superior strait in cases of this kind, because version is so easy, and can be accomplished so much more readily and with a greater degree of safety to the mother.

Of course, these are all disputed points, but I believe that a perusal of the world's recent literature will show that in the majority of clinics—in Berlin, Vienna, St. Petersburg, etc.—venesection is being largely employed in these cases. By removing a certain amount of blood from the patient you remove just that much poison. One point that has been impressed upon me is that we should do some definite surgical work in these complicated cases, instead of so much haphazard medical work, as we have done heretofore.

H. A. Davidson: The doctor is to be congratulated upon the outcome of the first case. I believe, with Dr. Speidel, that version could have been done in this case, because of the fact that the patient had a large uterus and, it being a twin pregnancy, the child was small. I recall a case of this kind that I saw in the city hospital. This woman had been in labor for forty hours before she was brought to the hospital, and it was necessary to do decapitation and evisceration.

As to the suggestion made by Dr. Speidel, in regard to introducing artificial amniotic fluid into the uterus, I would not want to try it. While normal salt solution is sterile, of course, still in passing through the vagina it would undoubtedly carry some germs up into the uterus, with its blood vessels open, ready to absorb them and cause septicaemia. Therefore, I do not think it would be advisable to carry out this procedure.

In the case of short cord, which the doctor reported, of course, there was nothing he could do under the circumstances. There was no doubt that pressure upon the fetal vessels had shut off the circulation.

I have never perspired so much in my life as in the case I mentioned in the beginning of this discussion. This woman was brought to the City Hospital one hot night in mid-summer. After I had decapitated the child and delivered the body, the worst part of it was to get the head. That was a time when we did not have the necessary

instruments for decapitation at the City Hospital, and I worked the best part of the night on that woman. She had been in labor forty hours, with a mid-wife working with her, and she was infected. She eventually died of septic infection. It was one of the hardest jobs I have ever tried to get the head after the body had been delivered.

J. Garland Sherrill: I do not know why it is that doctors who take an interest in obstetrics do not discuss these cases. My experience in former years in obstetrical work led me to the conclusion that perforation of the skull, decapitation and evisceration were operations that should be thrown out of the text-books and should never be employed. In the case of Dr. Davidson mentioned, I do not believe he would do the same thing at the present time. I did one craniotomy to deliver a woman in a case where the child was known to be dead, and I have never tried any surgical procedure that was quite as difficult. After the head was crushed it was very difficult to get the pieces out without damage to the mother. It was a very difficult operation and, I believe, more dangerous to the mother than a Cesarean section would have been. I now believe that, in cases where delivery is so difficult as to necessitate such procedure, it is better to do a Cesarean section, even though the child be dead.

H. A. Davidson: What would you do in a case where the woman had been in labor for forty hours and was infected?

J. Garland Sherrill: I believe I would do a Cesarean section there, control the infection and do an hysterectomy, because we never know how severe the infection is going to be. It is much better, of course, to do these operations before infection takes place, and give the patient her choice between Cesarean section and a very difficult delivery. I believe the former is safer for both the mother and the child.

I have always been interested in the subject of eclampsia, because one of the first cases I saw in private practice after leaving school was the wife of a physician with eclampsia. We were not able to do anything for her and the case made a strong impression upon me. I think Dr. Speidel's statement that venesection is strongly indicated in these cases is correct. We do not know the actual nature of the poison that causes all this trouble, but we do know that some of these patients who die of eclampsia do not show any marked evidence of kidney damage; in other words, while some of them are undoubtedly due to acute Bright's disease, the local symptoms are evidently caused by the intense toxemia. The poison is produced in the body, carried into the blood and there acts upon the nervous system, producing convulsions. Therefore, the convulsions are of toxic origin, and by removing a certain amount of blood we remove a proportionate amount of poison, which explains the benefit

these patients get from venesection. It may be that the prompt relief which we have for many years attributed to emptying the uterus was really due to the loss of blood. Not altogether, of course, because the removal of the foetus takes away a large amount of the toxic material that is being produced, thus not only removing some of the poison by bleeding, but also removing the cause of the toxemia.

Dr. Zinke, of Cincinnati, recently published a paper on this subject, showing a very low rate of mortality in these cases, and he depends almost entirely upon the administration of veratrum viride in very large and persistent doses. It is a remedy that is certainly worthy of consideration. Dr. Zinke is a surgeon and gynecologist, as well as an obstetrician, and he naturally leans to the surgical aspect of any question. He was one of the first to propose Cesarean section in a central implantation in placenta previa, and while he has to a certain extent abandoned the position he took upon that point, his views still do not coincide with those of the gentlemen who are now proposing Cesarean section in eclampsia, but rather holds to the use of veratrum viride in large doses. Possibly a combination of these two forms of treatment—venesection and veratrum viride, would give the best results.

Wm. Sanders: I was especially interested in the last case reported by the doctor. About a week ago I saw a very similar case, with recovery of both mother and child, and both are doing well so far. This was a woman weighing about ninety pounds and it was her fourth delivery. There was no oedema in either mother or child. I delivered her a few hours after I first saw her, at which time she was in an unconscious condition. There was considerable hemorrhage and her condition improved after delivery. I employed veratrum viride in 10 grain doses and brought her pulse down in a few hours. I gave her this dose every hour for two days and then decreased it to five drops. I delivered her at eleven o'clock and by four o'clock in the afternoon she had regained consciousness. She had two convulsions before delivery and two afterwards. I had a hard time resuscitating the baby. She was in the ninth month of her pregnancy.

W. C. Dugan: I am surprised that Dr. Van Zandt would even consider decapitation in the case he mentioned. If I understood him correctly, he said that this was a living child, and I do not believe we should ever take the life of a child in this day of progress. Old Dr. Meigs once did a craniotomy on his coachman's child, and when the child was delivered it cried. This made a great impression upon him and he told the class that he would never do another craniotomy. Cesarean section is so safe that, unless there is impaction that cannot be overcome it should always be done in these cases.

In regard to eclampsia, I have seen two cases in my time. One was in the daughter of a physi-

cian, who called another doctor and myself to see her after she had been delivered. She was having a convulsion when we arrived. I advised the use of opium, taking the position that there are three indications for the use of opium; first, it lessens the strength of the patient; second, it is one of the best of diuretics, and third, it creates free diaphoresis. These three indications were met in this case. The woman was put on opium and the respiration kept down to about ten per minute. She had excreted practically no urine for twenty-four hours. I remained there during the day and by evening she had passed quite a quantity of urine, and by the next morning she was passing plenty, and had no further trouble.

Of course, one case does not amount to anything, but I was so impressed with this one that, if I had a case in one near and dear to me, while I might employ other agents, I think I would use opium in some form.

T. K. Van Zandt, (Closing): I do not agree with some of the things that have been said. Of course, I agree with Dr. Dugan that decapitation of a living child is simply out of the question. In the case I referred to the child was dead.

In regard to the first case reported, these various surgical procedures are all right where you have the patient in a hospital, but under the circumstances it was impossible for me to do other than I did. I had worked with this woman, trying to do a simple version, for more than three hours, and I thought I knew how to do a version. I tried in every way possible, under deep anesthesia, but the head was wedged into a lateral implanted placenta. I could not get the arm up all the way; I would get it up part of the way and then it would come down again. A version I grant you, is easy where you have liquor amni present, or where the uterus will relax, which it would not in this case. Therefore, I was up against it and had to do something.

In regard to the last case, I tried Zinke's method, venesection with elimination, giving chloroform to control the convulsions, and then morphin. I also gave veratrum viride every hour or two. I remember one case in which I used veratrum viride in 15 drop doses; gave enema, did venesection and drew off a quart of blood, and did everything possible except to empty the uterus, and in spite of all this the woman died. We found the ureters very widely dilated after death.

One feature of interest in the case reported to-night was the fact that the child was oedematous all over.

MALIGNANT TUMOR IN ABDOMEN OF A CHILD.

By P. F. BARBOUR, Louisville.

(REPORT OF CASE.)

I wish to report a case which presented some diagnostic difficulties which were cleared up only by an exploratory operation.

February 3rd I was called to see R. L., age 4, suffering from severe pain at the umbilicus, on examination enlarged veins were very prominent over the abdomen, showing an obstruction to the return circulation of the blood, these had been noticed for two weeks. The liver was greatly and uniformly enlarged; it was not tender upon pressure; there were no enlarged nodules and the edges seemed normal. The spleen was slightly enlarged, abdomen was rather tense, heart and lungs normal, the appetite fair, bowels regular, sleep good, the urine strong in odor, but otherwise not abnormal.

It was thought that there was a mild grade of congestion of the liver causing its enlargement and pressing to a certain extent on the portal circulation and the inferior cava. He was given calomel followed by small doses of bichloride of mercury, to be continued for its effect upon the liver. Two days later the conditions were about the same, excepting that the pain was intermittent and very severe at times, the abdomen was quite distended and tympanitic, tongue clean. A prescription for carminatives with magnesia was ordered p. r. n., two days later the abdominal pain was better, and tympany and tenderness less marked, veins not so decided, pain was felt in the flexure of the right groin. A prescription was given combined sal soda, a small amount of paregoric and magnesia.

Ten days from the beginning of the trouble he was no better, the liver very large and bowels not acting freely. High colonic injections of oil were used, which brought away large hard masses; these were continued every day. February the 18th liver was very much enlarged, ascites had developed and the legs were swollen, the left somewhat more than the right. Urine free from albumen, traces of bile coloring matter.

A consultation was held with a surgeon to discuss an exploratory operation, the question to be decided was the relation between the very large liver, with absence of jaundice and the swollen legs. It was thought that the liver itself was pressing upon the inferior vena cava or that there was a tumor in the epigastric region, which could not be palpated.

Three weeks from the beginning of the illness a consultation was held with an internist, because the liver was apparently larger, limbs more swollen, abdomen much distend-

ed, respiration bad, apparently no ascites, some rigidity in the abdominal wall. Tentative diagnosis of tuberculous peritonitis and unguentum, hydrargyria was ordered.

One week later bowels acting freely, tumor mass becoming more elevated in the median line and pointing towards the navel, the liver is growing smaller, shape of the swelling changing. One week later plural effusion in the right side, child gradually weakening and emaciated. Examination of the blood was made to determine if the tumor could be a hydatid or an abscess. The report showed neither leucocystosis nor eosinophilia, thus excluding both of these conditions. Exploratory operation was suggested and was done on March 13th, 40 days from the beginning of the illness. The pleural effusion was drawn off and found to be bloody. Diagnosis, malignant tumor, was then confirmed by finding a large mass in the median line underneath the liver and pressing the liver forward so that the mass could not be distinguished from the liver by palpation. It was diagnosed a hyper-nephroma, but the condition of the child was so serious that extensive examination was not possible. The child gradually sank and died three weeks subsequently.

Of interest in the case is the history of malignant tumor on both sides of the family, but not in the immediate family.

DISCUSSION.

Wm. H. Wathen: This operation has shown such indefinite living pathology that from this alone it is impossible to say positively what the trouble was, but I do not think the history of the case, as given by Dr. Barbour, at all bears out the diagnosis of hypernephroma. In the first place, hypernephroma is of much longer duration than was indicated in this case, and the symptoms are entirely different. Before the tumor is apparent there is often blood in the urine, and this is markedly true as soon as the pelvis of the kidney is involved by the growth.

Hematuria may not appear for one or more years after the onset of hypernephroma, may then be only slight, and sometimes repeated at long intervals, the intervals finally becoming shorter and the hemorrhage more profuse. When the calyces and the pelvis becomes seriously involved by the tumor growth, the bleeding may be profuse and even continuous, the patient now loses flesh and a general decline in health begins. The disease may continue from two to five years after the first symptoms. Hypernephroma never occurs in infancy or early childhood and the cases reported at this age are clinical and pathologic errors. The disease seldom if ever begins before the age of 20 years, and is as carcinoma and sarcoma, more frequent after the age of 30. The case reported by Dr. Barbour is an embryonic mixed tumor of the kidney which had its

origin in embryonic islets or rests. Fifty per cent. of these tumors are found in children under three years of age and but few cases are reported after the age of ten. They are intensely malignant, of rapid growth and the patient seldom lives one year after the diagnosis of kidney trouble. They cause no hemorrhage because the growth does not invade the pelvis as in hypernephroma, the growth being nearly entirely evertive. These tumors become so soon attached to all adjacent structures that they are inoperable unless treated in the early stage. I have recently operated on a case of embryonic mixed tumor of the kidney, and also on a patient for a large hypernephroma which had existed for more than five years.

J. Garland Sherrill: Although the gentlemen present at this operation should be the best judges of the origin of the tumor, and also the character of the growth, I must confess that a tumor in the median line, growing slowly and pushing the liver structure forward, is more likely to be a sarcoma of the retroperitoneal glands than to have its origin in the kidney or the suprarenal tissue. It is true that tumors springing from the right kidney are sometimes pushed forward, but as a rule they appear more in the flank than in the median line. Furthermore, in examining a patient with a tumor of the kidney, we are likely to find that the tumor can be pushed back into the line from which it springs.

It is not unusual to see very large kidney tumors in infants, which are sometimes sarcomata and sometimes hypernephromata. Sarcomata grow more rapidly than hypernephromata. I recall a case in the care of the late Dr. George W. Griffith, in which a child had an enormous tumor, extending from the left kidney to far beyond the median line. The child died as a result of the growth. The late Dr. Cartledge also reported a case of this kind.

Hypernephromata are tumors that are not very well understood, and while it is true that hematuria is a very early symptom, as a rule, yet in many cases the tumor exists for some time before haematuria manifests itself. Persistent haematuria in a child should always lead us to suspect such a tumor, as they are by no means rare in children.

I do not think the gentlemen should be criticised too strongly for not having made an accurate diagnosis after opening the abdomen because, as Dr. Barbour has said, the patient was in *extremis*, and after ascertaining that the tumor was malignant, the only thing to do to save the patient was to close the abdomen as quickly as possible.

W. C. Dugan: I do not think this was a tumor of the kidney at all. I have never seen a tumor of the kidney press upon the portal vein to such an extent as indicated by Dr. Barbour. The fact that the tumor grew upwards into the chest, it

seems to me, practically excludes tumor of the kidney. Tumors of the kidney invariably grow in the line of least resistance, and the pressure upon the portal circulation in this case indicates, to my mind, the post-peritoneal origin of the tumor.

It is very difficult to say positively just what the nature of the growth was. I think it was a sarcoma, but I cannot say just what structures were involved.

P. F. Barbour, (Closing): The point of greatest interest to me in this case was the elimination of various conditions in arriving at a diagnosis. The operator gave it as his opinion, at the time of operation, that it was an hypernephroma. After recognizing the condition, he closed the abdomen as quickly as possible, which was necessary in order to save the child's life. I was not enough of a surgeon to be able to make the diagnosis myself.

REPORT OF CASE FOR DIAGNOSIS.

By W. C. DUGAN, Louisville.

The condition you see in the patient presented to-night began in January last. At first she had a small blister on the heel, and this ulceration, which is just over the internal malleolus, developed some time later. When she first came under observation it was about one-third of its present size, and the skin for two inches around was distended with pus. This has all disappeared, but she now has a condition that will not heal. The fluid which you see is not pus; it has been examined microscopically and contains no pus cells. I do not know what it is, and I do not know to what the condition is due. Practically every form of treatment recommended for such conditions has been tried, but it will not heal.

DISCUSSION.

M. L. Ravitch: This case of Dr. Dugan's is a very remarkable one. It is neither a tubercular nor a specific ulcer. It is a case of sporotrichosis. It is a very rare disease and only a few cases were reported in Europe and in this country. Animals suffer from it. It resembles glanders. A few cases were reported by Dr. Hyde of Chicago. This is a typical case with its granulating floor, discharging characteristic sero-pus. From stained smears you may get pus cells with accidental staphylococci but not organisms of any kind. Blood cultures carefully made will reveal the sporotrix of Schenkii. Carettment or brewers' yeast are the rational remedies. X-ray may be tried.

W. Edgar Fallis: The bacterium in this secretion is the most peculiar I have ever seen. It is a diplococcus, and the gross appearance of the culture is exactly similar to that of the staphylococcus albus. The secretion contains no pus cells; I was unable to find one pus cell in eight or ten

slides made from this material. This bacterium will not grow on blood serum; it will grow only on nutrient agar. It will not grow on litmus lactose. It is a diplococcus that looks exactly like the gonococcus; without a differential stain they could not be told apart. We made about six attempts to grow this bacterium and succeeded in only one instance.

I believe the Wasserman reaction would throw some light on this case; at least, it would do no harm to try it.

W. C. Dugan, (Closing): This condition is absolutely painless. When she first came under my observation, it was a large, angry-looking sore, but it was not tender in the least. I thought it would disappear in a short time, but instead of improving it gradually grew worse, in spite of every form of treatment that I could think of.

VACCINE TREATMENT IN FIVE CASES OF PYOSALPINX.

By H. J. FARBACH, Louisville.

CASE I.

Miss E. B., age 22, mistress. One abortion two years ago followed by curettage. No subsequent menstrual disturbance or irregularity. Contracted gonorrhea two months ago. Careless treatment, pain and bearing down feeling for a week. Twenty-four hours ago was taken with severe pain in left ovarian region. Pain intense, radiating down the thigh and up into breast, lower abdomen and left side rigid and very tender. Attempt at bimanual examination caused so much pain it had to be abandoned. Temperature 102.5, pulse 130. Anti-gonococci serum and stock gonococci vaccine given and culture made from discharge. Culture showed gonococci and colon bacilli. Anti-gonococci serum in four c.c. doses repeated every four hours until sixteen c.c. were given. Pain relieved but pulse and temperature remain high. Autogenous vaccine given on the third day was followed by complete relief of symptoms except discharge and tenderness on the left side on bi-manual palpation. Patient left bed thirty-six hours after third injection. Discharge and all symptoms disappeared after the fifth injection.

CASE II.

Mrs. W., age 30, married; healthy child four years old. Numerous miscarriages since birth of living child. Last one seven weeks ago. Present condition began ten days after miscarriage. Temperature 104, pulse 130. Pronounced septic sweat necessitating change of clothing and bed linen every hour. Profuse vaginal discharge, sanguineous and foul. Lower abdomen rigid and tender, cervix large and soft, uterus large and fixed. Culture showed streptococci, staphylococci and colon

bacilli. Condition so serious I did not feel justified in waiting for preparation of autogenous vaccine. Gave injection of stock vaccine known as Van Cott. Fifteen hours later temperature 101, pulse 108. Sweat greatly diminished. Second injection the fifth day. Twelve hours afterward temperature 100, pulse 90. No sweat. Vaginal discharge still profuse but not so foul. No pain, rigidity less. Expressed a desire for food. Following third injection temperature dropped to 99, pulse 80. Discharge ceased. Rigidity entirely gone, very slight tenderness on pressure, uterus and tubes still large but soft and fairly movable. Between fourth and fifth injection patient had a normal menses. Examination after the fifth injection showed uterus still large but freely movable; tubes but slightly enlarged and not painful; very little discharge from cervix. Patient left city at this time feeling perfectly well, having gained twenty pounds in four weeks. Advised at least three more injections. Report from patient three months later states in best of health and menses regular and normal. The stock vaccine was used throughout in this case.

CASE III.

Mrs. L., widow, age 28. Two healthy children, five and six years old. Double salpingo-oophorectomy two years ago. Still suffers severely from menopause syndrome. Profuse uterine discharge. Culture shows gonococci and staphylococci. Autogenous vaccine made. Patient discharged after fifth injection. No return of trouble in three months.

CASE IV.

Miss E., prostitute, age 23. History of attacks of pelvic trouble for three years. Last severe attack two months ago. Confined to bed for two weeks. Present symptoms backache, occipital discharge, loss of strength and weight, occasional sweat. Bi-manual examination shows large tender tube on right side, uterus large and partially fixed, thick,ropy, yellow discharge in cervix. Autogenous vaccine made. After sixth injection there were no symptoms except a thin clear discharge from cervix occasionally.

CASE V.

H. D., single, age 23, living at home. No symptoms except vaginal discharge and vague pain below Poupart's ligament on left side. Gave no history of an acute attack at any time. History as to length of time present symptoms had been present indefinite. Being a gonococci carrier was proven beyond a doubt. Examination of cervical discharge showed colon bacilli, gonococci and staphylococci. All symptoms disappeared after

third injection of autogenous vaccine. Six injections were given in all.

This is not a report of the vaccine treatment of pus conditions in the female generative tract but of the use of vaccines in the treatment of this condition. Candidly, I do not believe that vaccines by themselves would have accomplished the results, neither do I believe that other measures without the vaccines would have resulted the same. Such measures as drainage, position, local applications, douches, opium medication and uterine are indispensable. And as much depends on their proper application as on the vaccine.

The indiscriminate destruction of the female generative tract followed as it invariably is by a series of symptoms, often more severe and distressing than those present before the operation, is the principal reason for the suggestion of this line of treatment. In another report I have taken up in detail different phases of the procedure that I can not take up here, but I wish to emphasize these few points.

1. That evidence of pus in the tube, uterus or ovary is not an imperative indication for the removal of these structures any more than it is for the removal of the analogous pathology in the male.

2. That often the symptoms produced by the precipitated menopause are more distressing, and I might say more dangerous, than those of the pyosalpinx.

3. That I have seen cases illustrating every stage of these pathological conditions and due to all sorts of infectious agents and I have yet to see one that was not relieved, or, at least decidedly benefited, by this simple procedure.

4. That contrary to certain opinions it is not only a temporary partial relief, but in my experience the results have been permanent and the relief complete.

Autogenous vaccines, of course, promise more than stock vaccines, but in one of these cases a stock vaccine was used with equally good results.

The injection is subcutaneous, the dose depends on the resistance of the patient and the virulence of the offending organism. The repetition of the dose depends on clinical symptoms.

The complement fixation phenomena has made it possible to demonstrate that specific antibodies appear in the circulation within thirty-six hours after the injection of the vaccine and increase for several days. I have had evidence of their presence in the circulation six months after the last injection. One symptom of the so-called negative phase that follows the injection in these conditions is interesting and present in nearly all cases. It is the appearance of a bloody discharge

from the uterus, sometimes profuse. It was present in all five of these cases, even the one in which the tubes and ovaries had been removed two years before.

DISCUSSION.

Geo. H. Day: I do not think there is any class of cases in which the indications for vaccine treatment are more marked than in this class. I have seen two cases in which, in my opinion, the vaccine treatment was indicated. One of these was a woman who had been married for twenty years, and had been operated upon for the removal of the tube and ovary on one side. She was having a great deal of trouble but was very much opposed to having the other tube and ovary removed, and I decided to try vaccine treatment as a last resort. I can truthfully say that I never saw anything work as beautifully as a stock vaccine did in this case. That was three or four months ago and she has not had the slightest return of any of the symptoms. Previous to this treatment she had the most profuse leucorrhea I believe I ever saw, and her abdominal symptoms were very severe.

Another case was in a prostitute, who had undergone a series of operations, curettements, etc., but who would never consent to the removal of any of her abdominal organs. She has been getting an autogenous vaccine for fifteen days, and at the present time she is in pretty good shape.

I am convinced that, in this particular class of cases, we can expect a good deal more in the future than we have accomplished in the past, with the aid of vaccine treatment, and I think that in all such cases we should give the patient the benefit of the doubt and administer a proper vaccine.

J. Hunter Peak: I am always exceedingly interested in any report that Dr. Farbach makes, because I know he does good work and thoroughly studies his cases. However, in this class of cases, particularly gonorrheal pus tubes, I have very serious doubts whether a very badly diseased tube can ever be made useful so far as the function of child bearing is concerned. It is not always necessary to sacrifice the ovaries when the tubes are removed, unless the former organs are extensively involved, and inasmuch as an operation will positively relieve a salpingitis, I cannot understand why the patient should be exposed to the serious danger of infection other than the gonococcus, unless the vaccine treatment is to be given in conjunction with operative measures and drainage. We know that in gonorrheal salpingitis, the tubes very rarely rupture, as the appendix often does; they can stand a good deal more inflammation than the appendix; their location enables Nature to protect them by adhesions. Therefore, particularly in gonorrheal conditions of this kind, there is very little danger in waiting; in fact, I think it is sometimes best to delay operation for a while, and while

we are waiting for the condition to become what might be termed chronic, it may be a good idea to administer a vaccine. I am not one who would advocate the removal of any organ unnecessarily; each of the various organs is placed there for a physiological purpose and none of them should be removed that can be saved.

I wish to congratulate Dr. Farbach upon the apparent success which has attended his efforts in these cases, but I would certainly advise him to keep track of them, and see if the pathology has all disappeared. He may find later, in some of these cases, that the uterus is still fixed, and that there is still evidence of the existence of adhesions which may sooner or later cause the patient a good deal of trouble. If he does not, it will certainly be an encouragement to continue along this line of treatment. It would be interesting to hear a further report on these cases at some future time, as to the progress they have made.

Jno. B. Richardson, Jr.: I would like for Dr. Farbach to tell us, in closing, in what class of cases he would advise the use of vaccines? I have in mind a picture of a case of pus tubes, with Nature making every effort to take care of the condition, but where a little nudue exercise on the part of the patient may cause rupture of the tube, followed by general peritonitis and possibly death. Would he employ vaccine in a case of that kind? Or would he give the patient the benefit of the doubt and advise operation?

I do not wish to be misunderstood as deerying the use of vaccines in these cases, but it appears to me that it would be a little difficult to decide in what class of cases they should be employed.

Chas. W. Hibbitt: I am very glad to have heard the report made by Dr. Farbach. I believe that the use of vaccines will prove to be a great aid to the gynecologist in eradicating the gonococic infection especially, from the uterus and cervix, but I question whether we can entirely exclude surgical procedures and get any very pronounced results.

One case he reported struck me as being a very remarkable one. If I understood him correctly, he said that the uterus was fixed as the result of an acute or chronic inflammation, probably pus-tubes with adhesions protecting the surrounding structures, and after the use of vaccine, at the next examination the uterus was movable and had decreased in size. I cannot see how the vaccine could have relieved the adhesions in the pelvis and allowed the uterus to become movable.

H. J. Farbach, (Closing): I do not think that any one present would advocate the removal of a testicle or an epididymus in the male for any but a tuberculous infection, or malignancy, and still, from an anatomical and physiological standpoint, the tube and female testicle if you will, while they have every advantage over the male organ in the way of drainage, are removed on the least provocation. The female tube is

straight while the male tube is somewhat tortuous.

In the first case in which I used this treatment, about five years ago, I did not think it was indicated but administered it as a last resort. This woman had been advised by two or three men to have an operation performed, and after my examination I advised the same thing, but she was the daughter of a prominent man and the sister of a physician, and an operation would have meant a confession of licentious tendencies which she did not want to confess. She said she would rather die than undergo such an operation. In that case the results were remarkable indeed.

In regard to Dr. Hibbitt's remarks, I will say that, where there are chronic adhesions fixing the uterus, no medication in the world will do any good, but where the adhesions are due to an acute inflammatory process and exudation, the administration of vaccine will relieve them.

The point I particularly wanted to bring out is this: The results are not due to the opsonic influence of the vaccine; it is the production of antibodies that does the work. In other words, from an opsonic standpoint, we are going squarely in the face of the advice given us by the originators of opsono-therapy. While in any acute condition, Nature is producing all the opsonins possible, she is not so active in the production of antibodies. The object of the vaccine administration is to increase the number of leucocytes, first the mononuclears and then the polynuclears. Then the antibodies are produced either from the leucocytes, the spleen or the lymphatics. The latter is probably the best explanation.

After the administration of the vaccine the patient must be kept quiet for 36 hours. In some of the first cases I treated, I kept the patients in bed for two weeks after they had no symptoms from their standpoint. They would come to the office for an injection and I would advise them to go home and go to bed for 36 hours. They would fail to do this and, consequently, would have seemingly an acute attack of the trouble—severe pain, a rise in temperature, and all the symptoms of an acute attack of salpingitis, whereas in those that had remained quiet this did not occur.

One of the most spectacular symptoms following the administration of vaccine is a bloody discharge. In most of these cases (25 out of 30), the patient has had a bloody discharge within the first twenty-four hours following the injection. In most cases this is not present after the second or third injection, but in some instances it continues.

I remember one case in particular where the vaccine did not seem to be doing any good, and I advised the patient to consult a surgeon, who emphatically said that her condition was too acute to allow her to go upon the operating table at that time, and to let him hear from her

later on. Three weeks later I sent this patient to his office and he called me up and said there were no indications for operation at that time.

RHEUMATISM PHYLACOGEN.

(CASE REPORT.)

By J. T. DUNN, Louisville.

The history of rheumatism phylacogen is not necessary in this paper. That Parke, Davis & Co., reports favorably upon the Shafer method of treating disease should be sufficient warrant for us to take notice. They report cures in 96 per cent of a test list of more than 100 cases. That alone would cause most rheumatic patients to welcome the new remedy.

That a proper diagnosis should be made goes without saying. We have been advised to use it in those cases where all forms of septic arthritis, especially gonorrheal in origin, have been ruled out.

There are two methods of administering rheumatism phylacogen, and, owing to the violent reaction which ensues when the intravenous method is resorted to, we are cautioned to use only the subcutaneous method; if, however, failure rewards our efforts, then resort to the intravenous route.

There are some advantages and disadvantages in both. Cases with heart lesions, or arteriosclerosis, or those far advanced and near the end of life, should not receive the intravenous treatment. There are no contraindications to the subcutaneous administration.

There are some objectionable features coupled with both methods of administration. For instance, considerable complaint is made of pain at the point of injection by the subcutaneous method, where there will be no pain or discomfort if given intravenously; and where a dose is administered daily as in this treatment, the patient becomes so sore and tender that it is difficult to continue the treatment. The indurations produced by the subcutaneous method have, in my experience, been persistent and painful. The intravenous administration, if the proper technique is used, is no more painful than the ordinary hypodermic injection, and the local reaction is nil.

Overdosage by the intravenous method is possible, and will be indicated by the very explosive effect which follows within a very few minutes after its administration; to-wit, violent, chattering chills, bigness of lips and fingers, and severe vomiting, followed in three or four hours by hyperpyrexia. The minimum dose should be given first, and gradually increased. The deposit of the selected dose within the vein must be very gradual, and at no time should more than one c.c. be given per minute, allowing ten c.c. to be administered

in ten minutes. This precaution will prevent the occurrence of many alarming symptoms.

Considerable skill is required in the introduction of the needle within the vein, which should be done by simple puncture and not by open incision, as was formerly advised.

The subcutaneous method is so simple that any one accustomed to hypodermic medication will have no hesitation in practicing this method of administering phylacogen. The intravenous method is a purely surgical procedure and should not be attempted by those not familiar with surgical technique. The introduction of a bubble of air, or a blood-clot, within the vein, would prove serious. Within ten seconds after the arm has been prepared with the customary cleansing solution, and the veins made to inflate by some constricting agent applied about the arm between the elbow and the shoulder, the injection should begin. A very sharp hypodermic needle, about 26 gauge, should be used, and it should be detached from the syringe until introduced within the vein. We are to know when the vein is entered by the passage of blood through the needle, which has been obliquely passed through the skin and into the proximal wall of the vein, taking care not to pass entirely through the distal wall of the vein and out into the underlying tissues. With a sharp needle, no difficulty is encountered if the veins are of any size. As the blood flows from the needle, the loaded syringe, previously prepared so that no air is present, is connected directly to the needle, and the slow administration begins. If you have entered the vein and have not withdrawn the needle in your efforts to connect the syringe, the fluid enters the vein direct and there will be no discomfort as its administration ensues; otherwise, it will be necessary to begin over again. Again, so much time may be consumed in making the connection between the syringe and the needle, that the blood will have clotted and blocked the needle, and a delay occasioned.

The reaction following the subcutaneous administration is very mild, and at the most consists of slight chill, and medium elevation of temperature, say about 103 degrees F., reaching its highest point within six or eight hours; whereas, the intravenous reaction occurs regularly within twenty minutes, beginning with a marked chill, soon followed by vomiting, and, within three or four hours, a temperature much higher than 103; in some instances 106 to 108. The chills and vomiting pass off within 30 to 40 minutes, perspiration becomes profuse and the patient is inclined to sleep, only to awaken free from pain. This freedom from pain frequently follows the administra-

tion of the first dose if given by the intravenous method.

REPORT OF CASE.

Mrs. V. G., age 27 years. Ill of rheumatism ten years, commencing in right knee, followed soon by the left. Were very much swollen, red and painful. One year ago both shoulders, elbows and wrists, with three fingers and thumb on left hand and thumb only on right hand became affected. The left wrist became so stiff that motion was almost entirely lost and the motion in all the other affected joints limited to about 50 per cent. than normal range.

The customary rheumatic treatment was resorted to, in addition to 5 weeks at Hot Springs, Ark., 3 months at Martinville in 1911, and another 3 months in 1912, and in the interval frequent trips were made to various parts of the country where hopes of relief would be obtained including Saratoga Springs, Mt. Clemens, Clark's Baths, Detroit, Mich., and French Lick, etc., etc., all to no avail. The progress of the disease was not checked, nor were the pains relieved. The only relief obtainable was by free use of aspirin and at the least calculation the patient has taken 6,500 grains of aspirin since last June (now 11 months) and by actual count has taken 6,000 grains in past eight months, or about 25 grains per day.

For one year she has been obliged to use a cane in walking and since the arms became involved one year ago has been helpless insofar as dressing, feeding herself, combing her hair, etc., as is impossible to get the hands to the head or mouth.

Admitted to hospital April 24, 1912, walking with difficulty by aid of cane, both knees firmly bandaged with flannel and very painful. The use of pillows under and between the knees were necessary. Patient unable to move herself the slightest, the service of a special nurse being needed to make all the necessary movements for the patient who declared that rheumatism was "a most difficult quest to entertain."

Charts showing the range of motion in both upper and lower limbs were made upon admission to which you are referred.

Temperature 98 2-5 degrees. Pulse 84. Respiration 20.

April 24th, 10:00 a. m., 5 c.c. rheumatism phylacogen was administered subcutaneously beneath the left scapula. The only reactionary symptoms were elevation of temperature and pulse which began in three hours and increased until temperature of 102 and pulse 112 were recorded in eight hours, when they fell gradually to normal. Patient complained of soreness at site of injection, but had a fairly good night.

April 25th, 8:45 a. m., 5 c.c., subcutaneously in right hypogastric region (the back being too sore to admit of further medication). The reaction reached its height within 11 hours, temperature being 101 3-5 and pulse 106. Had a good night's sleep but complained of pain at site of injection (no relief from pain).

April 26th, 9:45 a. m., 10 c.c. given in left hypogastric region and at 10:45 had cold clammy perspiration with chilly sensation, heat applied. The reaction reached its height in 9 hours, temperature being 104 1-5, pulse 120. Fairly good night, no relief from pain.

April 27th, 9:15 a. m., 10 c.c. given in right hypochondriac region and the reaction reached its height within 10 hours, temperature being 101 4-5, pulse 122, and had a fairly good night. No relief from pain. (Here decision to give intravenously).

April 28th, 9:15 a. m., 5 c.c. intravenously. Reaction began to show in 20 minutes by marked chill which was a severe clatter, not only causing the patient to tremble from head to foot, but the bed was thrown into a state of vibration such as we had never seen. The chill continued for 35 minutes and was accompanied by blueness of lips, ashy hue of face and frequent outbreaks of cries by patient of pains in the affected joints, interspersed with vomiting lasting 20 minutes and was projectile in character. Hot water bottles and additional covers were resorted to and as the chill passed off, hot lemonade administered, but promptly ejected because thirsty and uncomfortable. Patient lapsed into drowsy condition, but did not sleep. Reaction reached its height in 3 1-2 hours, temperature 106, pulse 136, respiration 39, and within 11 hours had dropped to temperature 101 4-5, pulse 126, respiration 30. Body profusely bathed in perspiration; slept fairly well and awakened free from pain. To our great surprise and delight, patient was able to change her position from side to side at will without the slightest pain and marked improvement in range of joint action was noted, there being about 25 per cent improvement. General condition much improved; patient now able to easily reach the mouth, hair and any portion of the body without pain, and as a demonstration kicked both feet at one time into the air making flexion and extension without pain, and has continued to improve from that day (April 29th) notwithstanding the continued rainy weather.

The day following the first intravenous injection none was given. Upon this day she was very comfortable and sat up in a chair two hours in the afternoon without pain or discomfort other than stiffness of joints.

April 30th, 9:00 a. m., 8 c.c. intravenously, followed in 20 minutes by the typical reaction

as before described, chill, vomiting, sweating, except not so severe, temperature reaching only 102, pulse 120; slept well.

May 1st, 8:45 a. m., 10 c.c. intravenously, followed in 20 minutes by typical reaction, temperature 102 3-5, pulse 114. Slept well and feeling better.

Attention is called to herpes upon right cheek, size of half dollar, and two points upon back low down, same size, attributed to phylacogen, and approaching menstrual period which appeared the following day. No phylacogen given during that period and zinc oxide ointment applied locally; herpes all disappeared when menstrual period was over. During this rest from treatment patient's appetite improved very much and spent most of her days in wheel chair and short walks about the hospital, supported by the nurse, going out in the yard when weather conditions were suitable, sleeping better and free from pain.

May 6th, 9:00 a. m., 8 c.c. intravenously, followed promptly with the regular type of reaction, temperature reaching only 103 4-5, pulse 130 within 3 hours and 45 minutes, and soon receded. Patient feeling better at 2 p. m., sitting up in bed at 6 p. m., enjoyed supper at 9 p. m., and up walking about the room and hall at 9:30 p. m., and retired at 11 p. m. Still complaining of soreness and presenting some discoloration over site of previous subcutaneous injections.

May 7th, 9:15 a. m., 10 c.c. intravenously, followed by typical reaction, temperature reaching its highest within 3 hours, being 103 2-5, pulse 124, patient up in chair at 3 p. m.

Dismissed from hospital May 8th.

May 9th, 9 a. m., 10 c.c. intravenously.

May 10th, 9 a. m., 10 c.c. intravenously.

Making a total of 9 packages of 10 c.c. each, covering a period of 17 days.

The patient is highly pleased over the outcome of the treatment and is now, even in this short time, able to sleep better, eat better, walk without pain and unaided, goes every place about the home, dresses herself, combs her hair, feeds herself, and all without the use of aspirin as she discontinued its administration May 8th, and has felt no inclination to resume its use; has discarded the flannel bandages and her faithful friend the cane has an honored place upon the hall tree.

It is useless to say that so far we are very much pleased with rheumatism phylacogen. It is certainly a boon to this painful class of sufferers and although the reaction from its intravenous administration is severe, it is to be preferred in suitable cases to the subcutaneous method. Note the difference in the physical condition in this case report where subcutaneous injections, even in 10 c.c. doses,

did not lessen the painful condition of joints, whereas the very first intravenous, consisting of only 5 c.c., gave immediate relief. It is true that intravenous medication is a surgical procedure and should be given only by physicians accustomed to surgical cleanliness and surgical technique. I believe it is perfectly safe in the hands of such men; others should use the subcutaneous method and give the treatment for a longer period and be satisfied with slower results.

DISCUSSION.

Edward B. Richey: I have been very much interested in this report. Perhaps some of the members present will remember a case that I reported to the society some time ago, in which I used the same treatment. I notice that there are many points of similarity between Dr. Dunn's case and my own; namely, the severity and long standing of the condition, and the various efforts made for its relief. However, there is considerable difference in the ages of the patients; the lady under my care was farther along in years than Dr. Dunn's patient.

I disagree with Dr. Dunn with respect to one or two points in connection with the administration of phylacogen. In other respects I agree with him entirely. The experience I have had warrants the statement that in every case of the kind that comes to me in the future, I will not hesitate to use the intravenous method. I believe it is an entire waste of time to use the subcutaneous method. It makes the patient miserable and uncomfortable and has a tendency to make them become dissatisfied with the treatment. The number of injections makes a multiplicity of sore places, and human nature rebels against getting the body into this condition. The fact that the intravenous injection gives practically no pain makes the patient welcome it as quite a boon after having experienced the subcutaneous injections for a while. However, I believe I prefer the method of leaving the needle attached to the syringe after introducing it into the vein. It seems to me that it is more convenient and there is less danger of the needle becoming clogged with blood before we are ready to introduce the fluid.

The way that I tell that I am in the vein is this: After introducing the needle, I withdraw the plunger of the syringe until blood appears in the anterior portion of it and then, by raising the plunger and allowing the air to pass into the upper portion, there is no danger of introducing air into the vein. After having been convinced that the needle is in the vein by drawing a portion of the blood, I introduce the phylacogen.

I have never had any trouble in getting the needle into the vein. I usually take about five minutes for an injection.

I notice that Dr. Dunn began with 5 c.c. as the first dose. I began with 2 c.c., because the

treatment was new to me and I did not know what the results would be. I had read that the reaction was very severe; consequently, I began with the smaller dose. After seeing that the reaction was not so severe, I felt justified in increasing the dosage gradually from m2 c.c. to 5 c.c., then to 7 1-2 and then to 10 c.c. After having tried three subcutaneous administrations, I began intravenous injections. The results in this case, which has been under my observation since the first of February, have been nothing short of marvelous to me as well as to the patient herself. She had been unable to move; an attendant had to lift her from her chair to bed. She weighed over two hundred pounds and had not been able to walk, or even to get out of bed, for a number of months. She had been suffering with the disease for twelve years, and had tried all sorts of treatment. After the first injection of phylacogen, the same results were evident that Dr. Dunn mentioned in his case. She could turn over in bed without assistance and without pain. This improvement continued and in ten days after she came to the city she was in condition to go back home. She could have walked on her crutches at that time, but I preferred to send her in a wheel-chair in order to avoid any accident. I saw her yesterday. She is delighted with her physical progress and thinks there is nothing like the treatment given her, although she says she cannot forget how severe the reaction was. She is walking everywhere with the assistance of her crutches, and she can walk a few steps without her crutches but prefers not to risk it, for fear that she might fall and break a limb. The very fact that this patient is free from pain, even if no other results had been obtained, is sufficient to justify the treatment.

Thos. K. VanZandt: I would like to ask Dr. Dunn if he would advise this treatment in the milder forms of rheumatism, or only in the more severe cases?

Bernard J. O'Connor: I have not had any experience with this agent, but it seems to me that it should be employed as a dernier resort rather than the first thing we think of in the treatment of rheumatism.

There are one or two questions I would like to ask. First, what is the reason for the use of a toxic agent (as this apparently is) in the treatment of rheumatism? Second, why should it be given daily instead of allowing several days to elapse between doses? Third, do the results of studies of the blood (if any have been made) tend to show any curative effect in the way of increased leucocytosis, an increase in the opsonins, or any increase in the defensive properties of the blood serum?

W. A. Bolling: I will reply to Dr. B. J. O'Connor's questions seriatim:

1st. Phylacogens are not toxins in the sense of toxins which are injected into animals for the production of antitoxins. Phylacogens are nei-

ther "bacterial vaccines" nor "sera" as these terms are usually understood. They are sterile aqueous solutions of metabolic substances generated by bacteria grown in artificial media, as the name phylacogen indicates, which is derived from two Greek words, a guard and to produce or "phylaxis producer."

2nd. The necessity of daily administration of phylacogen is to produce a permanent immunity or neutralization to prevent relapse, however there are certain indications such as great prostration and intense local and systemic reaction following the injection of a large dose of phylacogen, which would warrant a longer interval between doses 36 to 48 hours, however these conditions are unusual and it is not advisable to extend the interval of rest between doses longer than 48 hours.

3rd. The hematological studies demonstrate a fairly constant leukocytosis and the hemoglobin content and the specific gravity very little affected.

J. T. Dunn, (Closing): In regard to the method of entering the vein with the needle, of course that is largely a matter of personal equation. I made two or three jabs (as the patient called it) with the needle attached to the syringe and was not able to tell whether or not I had entered the vein. Upon making a little suction stroke I withdraw the needle a little ways, without entirely removing it from the skin, and make another attempt, with the same result. After making three or four unsuccessful attempts to enter the vein, I finally gave it up and administered that particular dose subcutaneously. Upon removing the needle I found that it was plugged up. I am sure that the needle was clean when I first introduced it, and I came to the conclusion that in making a suction stroke with the piston, some of the tissues had been drawn into the needle obstructing it, and it is possible that I entered the vein two or three times after that but failed to get any blood because of this obstruction in the needle. Thereafter I removed the needle from the syringe afterloading the syringe so that it was filled to the point of the needle, ready to be expressed. When the vein was entered the blood would flow into the cap of the detached needle, and when the cap was full I attached the syringe and had no trouble in forcing the blood back into the vein, followed by the phylacogen.

Answering Dr. VanZandt's question as to the type of cases in which phylacogen should be given, I will say that I should not hesitate to give it to any patient who had tried the various forms of treatment for rheumatism without permanent results.

APPENDECTOMY, FOLLOWED BY CROUPOUS PNEUMONIA; RE- COVERY.

(REPORT OF A CASE.)

By O. H. KELSALL, Louisville.

Patient, J. R., white, age 27.

PERSONAL HISTORY.

Had measles, parotitis and varicella in childhood. Had a severe case of typhoid fever at 17 years of age. Two years ago, last April, had a severe attack of articular rheumatism being confined to bed ten weeks. For several years past, he has had occasional attacks of abdominal cramps but never severe enough to compel him to quit work.

Patient first seen by the writer April 14th, 1912. He was found suffering with general abdominal cramps. No localized pain on pressure but with a rigidity of the right rectus so slight that the writer was in doubt about it. Temperature was normal. Further physical examination revealed a mitral regurgitant murmur at the apex, which was transmitted to the left. Lungs normal. The next day, April 15th, pain was localized over McBurney's point; rigidity of the right rectus marked but temperature only 99; pulse 76, and patient expressed himself as feeling much better. Notwithstanding this, operation was advised and accepted, the patient being operated on the same afternoon, i. e., April 15th. The appendix was found lying between the caecum and ileum and was removed without much trouble. It was gangrenous from base to tip. The abdomen was closed with a cigarette drain leading down to the stump. The patient got along very nicely for the first two days, having only slight elevation of temperature but a slight cough was noticed. On the third day, however, his cough became worse and his temperature went to 102. Physical examination revealed consolidation of the upper lobe of the right lung. In two or three days' time the patient also developed the rusty colored sputum that we generally see in croupous pneumonia. The patient began to improve after about seven days, the improvement taking place by lysis rather than by crisis. The writer supposes that this was due to the septic condition resulting from the appendix. His heart action, fortunately, remained good throughout.

An interesting question is, to what was this pneumonia due? Was it due to the ether, of which only 200 grammes were used administered by the drop method on the open cone, or was it a metastasis from the septic appendix?

The patient left the infirmary three and

one-half weeks following the operation and returned to work five weeks following the operation.

DISCUSSION.

M. Casper: I believe that many cases of so-called ether pneumonia may possibly be due to the infection already in the system rather than to the ether itself. In a case like the one reported, why could it not be due to both factors—that is, the sepsis already in the system and the irritation of the lung produced by the ether? I have had a good many cases of so-called ether pneumonia which may have been due to either cause. I do not believe that ether itself will cause pneumonia, and that in cases where the anesthetic is seemingly the only factor, it is due to the fact that some foreign substance has found its way into the lung. Furthermore, it is perfectly feasible that the infection may travel through the circulation, just as it does in the kidney. There is no reason why the lung should not be infected through the blood stream; in fact, it is perhaps more liable to it than any other organ, because the blood is "worked over," as it were, more in the lung than in any other organ in the body. Therefore, I believe that a good many cases of so-called ether pneumonia could be traced to systemic infection.

O. H. Kelsall, (Closing): There are several rather interesting points about this case. First, although the patient did not seem to be very ill, when we opened the abdomen we found the appendix gangrenous from base to tip. Second, notwithstanding a mitral regurgitant murmur, the patient survived the anesthetic, the operation and a croupous pneumonia. Third, that this patient should have developed a croupous pneumonia following the operation.

Influencing of the Opsonic Index by Drugs.—Strubell states that some of the common drugs have the effect of sending the index up or down; different drugs have a different influence in this respect according to the chemical composition of the drug, but no action could be detected from salt. Iodin and bromin salts are active in this respect as also urea. In his experiments the latter had a marked influence in reducing the opsonic immunity to staphylococci. This became apparent in fifteen minutes and reached its maximum in an hour. Arsenic, on the contrary, had an opposite effect, rapidly raising the index, in conformity to its therapeutic action.

SOME NOTES ON THE WORK OF MR.
ROBERT JONES IN LIVERPOOL.

By JOHN D. TRAWICH, Louisville.

The visiting doctor, who calls at No. 11 Nelson Street, Liverpool, sees Mr. Jones in his working clothes. He is impressed, first, with the tremendous energy of the man, and secondly, with the enormous amount of work he accomplishes. It is difficult to specify any one thing that he does better than another, but one of the conditions that he has had largest experience in correcting, is that of the internal semi-lunar cartilage. He very modestly states that up to the present, he has done "about eight hundred of these cases," but his house surgeons and those who are in most intimate contact with his daily work, state that his cases now number into the thousands.

His method of procedure is briefly as follows: With the patient brought well down on the table, so that the knee is flexed with the leg hanging down and the well side protected so as to be clear of the field, under strictest asepsis, he makes a crescentic incision, extending downward and forward from the lower border of the internal condyle of the femur. Laying aside the knife, with which the skin incision was made, he, with another, opens the synovial sac and, the cartilage, if loose as it generally is, will present at opening. Catching this with a strong grasping forceps, it is pulled out to its limit and cut off deep at its attachment. The incision into the capsule of the joint is closed with iodinated cat gut, then the deeper fascia, then the skin with silk-worm gut interrupted sutures, dipping the needle into pure iodine each time before entering the skin. After the incision is closed the wound is bathed in iodine and dressed aseptically.

Another procedure in which Mr. Jones excels, not only in technic, but in results, is in the transplantation of tendons for correction of the maiming that follows the paralysis of polio-myelitis. Take for instance his operation for the transplantation of the tendon of the tibialis anticus into the base of the fifth metatarsal. The incision begins well above the internal condyle along the tract of the tibial tendon and extends downward to the point of its attachment. The tendon is detached from its insertion in the cuneiform and base of first metatarsal. The detached end of the tendon with part of the periosteum of the cuneiform, is held with forceps until the procedure on the other side of the foot is completed. The next incision is made on the external lateral surface of the dorsum of the foot, extending downward from about opposite the external condyle to the side of the fifth metatarsal articulation. The head of this bone is fully exposed along the external

lateral aspect. An incision is made into the periosteum. By blunt dissection a tunnel is made to extend under the bridge of skin and fascia, between the two incisions. The purpose is to slip the tendon of the tibialis anticus through this tunnel in such a manner that there will be an easy slant to the tendon in its new position, being quite sure that there is no acute angle, around which the tendon may be forced to glide. The end of the tendon with a small portion of the periosteum and bone, removed along with the tendon when it was separated from its attachment, is now brought into the tunnel and downward along the external aspect and buried into the incision that has been made through the periosteum at base of the metatarsal. If by any chance the tendon should be too short to reach to this bone, perfect functional results can be obtained by making anchorage upon cuboid instead. Mr. Jones uses a small nail, which he drives through the end of the tendon into the body of the bone to re-enforce the attachment. The periosteum is sutured over the tendon and the incision is closed in the same general way as that given above. The foot is dressed with a right-angle splint. It is very interesting to see the results of this re-enforcement of the paralyzed group of muscles by transference of the power of the functioning muscle of the opposite group; so that what once has been an extensor may be converted into a flexor or vice versa. In like manner a pronator into a supinator. The biceps tendon can be utilized to re-enforce the quadriceps extensor by attachment laterally into the patellar tendon. The peronei and the tibialis anticus can be made to interchange function, depending upon the group which has suffered in the primary disease.

This operation suggests another, which Mr. Jones is very fond of doing, and is dependent upon the principle that rest is absolutely essential to a paralyzed muscle or group of muscles. The healthy innervated muscle is working over time and if an equation can be established between the healthy and paralyzed side the probability of the restoration of function to the diseased muscles, is greater. The procedure is that of the formation of a skin flap, for instance at the elbow joint, in order that the arm may be kept in flexion. In those cases, particularly of useless arms, resulting from infantile paralysis, if there is ever so slight power of flexion and extension in the fingers, Mr. Jones does not hesitate to give a good prognosis. The forearm is flexed strongly upon the arm and small marks are made upon the skin, so as to outline the extent of the proposed incision for denudation. Then the forearm is extended and supinated. The incision is made along the route outlined and the skin is removed over this diamond-

shaped area. Hemorrhage is checked by force-pressure, or by compresses, rarely is it necessary to ligate. The forearm is now flexed into the former position and the edges of the wound, upon the forearm, are sutured to the corresponding margin upon the arm; thus it will be seen that the forearm is held perpetually in a state of flexion and in a position where the greatest use can be made of the least motion. It is very encouraging to see these little frail members restored to extension and flexion within a few months, provided the destruction has not been too great. As extension of the forearm becomes more and more possible, the scar that has resulted from this operation will stretch until it is possible, when improvement has progressed to that point where the surgeon would feel justified in removing the artificial re-enforcement, to make an incision along the length of the scar and allow for extension of the forearm to the fullest degree.

In his treatment of spastic paraplegias, Mr. Jones lays great stress upon the mental condition of the child, since that, to a very large degree governs the prognosis. If the child is dull, morose, ill-tempered and lacking in mentality, so that education of the child will be impossible, then he advises that no operation be attempted, but if the child is thought capable of being taught and seems willing to learn, then he argues, with very good reason, that the sooner the child can be put upon his feet and taught to walk, the quicker will his mental condition improve.

One point of particular interest in some spastic cases, in which he got good results, was the very considerable adductor spasm that was present. This spasm is sometimes so great that when the child is lifted up off of the floor the limbs will be drawn across each other with a spasmodic contraction of the adductors, producing the characteristic "scissors deformity." If the child is made to stand, generally he stands on his toes with knees turned in and there will be a restless reaching out of one or both hands, the thumbs strongly flexed upon the palm and the fingers extended irregularly. Division of the adductors and the elongation of the tendo-Achilles are the two principal primary procedures. In treating the contracted Achilles tendon it is better to do an operation that will result in an elongation of the tendon, rather than simply to sever the tendon, for in the latter case the contraction of the calf muscles is so violent that the ends of the severed tendon will be too far separated for union ever to occur, resulting in a useless flail ankle joint. Instead then of doing a simple subcutaneous tenotomy Mr. Jones cuts down upon the tendon, goes through the sheath and brings up the tendon, which is sometimes enormously

hypertrophied. This, he divides, removing a section usually about 3-4-inch long. A strong doubled, chronicized cat-gut suture is passed through the ends, of the severed tendon, and tied so as to allow for just the amount of separation desired, between the cut surfaces. This procedure of tenotomy of tendo-Achilles has been mentioned first, although it is not to be made the first operation in the series necessary for correction of the deformity of the paraplegia. Before this is done it is necessary to proceed to the division of the adductors, near their origin. This is best done openly, that is, a subcutaneous tenotomy cannot be sufficient, a conclusion easily reached after one has seen the ill results following the incompleteness of the subcutaneous procedure.

Each adductor tendon is taken in turn, severed, and a section removed from the tendon, so as to allow a free wide gap between the severed ends, then the tendon sheaths are cut, so as to remove every possible tendency to a too early recurrence of the adductor spasm.

The child is placed in a double Thomas abduction splint with feet in right angle braces. Of course the question of the section of the nerve roots at the spinal cord enters here, but this note is too limited to allow for discussion now.

It might be interesting just at this point to mention some of the ill results that may follow and which the writer has seen succeeding the so-called "Lorenz reduction" of congenital hip. Mr. Jones has particularly called attention to a few of these points, viz: From the prolonged manipulation a haematoma results, which may easily undergo infection with abscess formation. Thrombosis of the femoral vein has been noted ossitis of the head and neck of the femur, with infection of the joint cavity. Lastly, is the not infrequent fact, the rarely reported occurrence of fracture, or epiphyseal separation either above, or fracture and separation at lower epiphysis, due to too violent manipulation.

It is not with the idea of discrediting the procedure, that these facts are here inserted, but to call attention to the truth, that these incidents do occur, and to urge wise, anatomically correct manipulation, tempered with a full consideration of the shock that invariably follows prolonged manipulation in these cases, which are very frequently below par in general nutrition.

No account of a visit to Mr. Jones is complete without speaking of the great work he is doing in his open air hospitals at Baschurch and Heswold. The latter is reached by a bracing motor ride of some ten miles, over wonderfully kept roads, until the party reaches the banks of the River Dee. In the distance one sees the blue hills of Wales.

The Royal Country Hospital is built upon a high hill overlooking the valley of the Dee, and the pure air that sweeps away from the Welsh hills is the tonic on which Mr. Jones depends so, to re-enforce his generally conservative attitude in his treatments. The visitor is struck at once by the appearance of the little patients, lying contentedly in the beds, there in the open-air wards.

It would take too much time to enumerate all the cases one sees in the rounds, or to mention even half the operations done in a day,—congenital talipes, in every variety, results in poliomyelitis, hip-joint cases, spinal lesions, tubercular bones and joints—all are there and seem to thrive and grow wonderfully well in the open air. Not strange that this genius of the children, can insist on deliberate conservatism in treatment of tuberculosis of bones and joints, when he has such co-operation of sunlight and good air.

IRIODIALYSIS.

(REPORT OF CASE.)

By ADOLPH O. PFINGST, Louisville.

I wish to report a case of iriodialysis, a traumatic separation of the periphery of the iris from its attachment. This condition is not infrequently seen by men doing work along special lines, but it may be interesting to some of you to see how the iris may be separated, at its periphery, from the ciliary body.

This young man was injured, about a week ago, by being struck in the eye with the blunt end of a whip. When I saw him, six or eight hours later, there was some blood in the anterior chamber, but I could readily detect the separation of the iris at its periphery on the temporal side.

Such injuries are not so very uncommon and, fortunately for the patient, are not serious, either as regards function or the loss of the eye. This patient has practically a double pupil. Usually the patient does not suffer any great inconvenience, although at times there is diplopia on one side. So far this man has not complained of this. His vision is now 20-50 and I believe it will return to normal after the cloudiness of the vitreous clears up.

DISCUSSION.

A. L. C. Percefull: What form of treatment do you use in these cases?

A. O. Pfingst: The natural tendency is to use atropin so as to dilate the pupil and get the iris over towards the periphery. However, there is no treatment that is satisfactory and the rupture will remain as it now presents itself.

COUNTY SOCIETY REPORTS

Barren—The Barren County Medical Society met in the office of Dr. Botts, Glasgow, July 9, 1912, with the following members present: Miller, Deppi, Jordna, Leech, Botts, Porter, McCreary, Froedge, Grinstead, Siddens, Ashury, Furgeson, Turner, Taylor, Honaker and Starr. Visitors, W. F. Boggess, H. N. Leavell and D. W. Willmoth, Louisville.

The society was called to order at 10 a. m., by A. T. Botts, president pro tem. The minutes of last meeting were read and approved.

There being no clinical cases present, Dr. Leech introduced the subject of "Appendicitis," which was discussed by Drs. Honaker, Miller, Porter, Leavell and others. The discussion was interesting, but grew perceptibly duller as the time grew near for our annual dinner at Murrell's Hotel. I must remark in passing that the dinner at this excellent hotel was fine, and that our members and visitors seemed to enjoy the occasion to the fullest extent.

At one o'clock p. m., **H. N. Leavell** began his clinical work in the county court room, where about twenty patients awaited him. These cases were examined and prescribed for, doctors and the laity taking equal interest in the discussion of the more interesting and important features of each case.

W. F. Boggess' "Health Talk" in the circuit court room was listened to by a large audience of ladies and gentlemen who gave close attention to the lecture from beginning to end. I may safely say that the speaker's pleasing style and earnest appeals for better sanitation made a profound impression on all who heard.

In response to calls from the audience Drs. Leavell and Willmoth came forward and delivered short and appropriate addresses after which the society adjourned to meet August 13th, 1912.

J. M. TAYLOR, Secretary.

McLean—The McLean County Medical Society met at the court house with the following doctors present: P. D. Moore, W. W. Spicer, J. W. Clarke, W. P. Miller, H. W. Gates, J. H. Thorpe, J. H. Thorpe, J. S. Fitzhugh and W. L. Haynes. J. H. Thorpe, president, presiding.

P. D. Moore was elected as a member, he having recently moved here from Ohio county.

On motion of **W. P. Miller** and seconded by **W. W. Spicer**, it was ordered that our dues be 50 cents annually to the county society.

J. H. Thorpe read a paper on "Hookworm" which was certainly very interesting and instructive. It was an excellent paper showing that he had made a close study of his subject. There have been no cases of hookworm in this county, hence we knew very little to discuss the paper.

J. S. Fitzhugh presented a paper on summer

diseases of children. This was well gotten up and showed the Doctor to be well prepared to handle this dread disease which carries so many little ones away. It was discussed by every member present. The society was well pleased to have had two such instructive papers.

The Secretary was instructed to write to our representatives in Congress that we are heartily in favor of the "Owen Bill." He was also instructed to write to the Attorney General regarding the collecting of the fees for the birth and death certificates. Our doctors have fully complied with the law but thus far have received nothing on the orders sent us.

Our next meeting will be held at Calhoun on September 9th, 1912.

W. L. HAYNES, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, Wednesday, August 14th, 1912, with the following members present: A. L. Beckett, P. N. Blackerby, O. W. Brown, J. A. Caldwell, H. C. Clark, J. F. Daugherty, W. A. McKenney, John E. Wilson, J. Ed Wilson, K. B. Woolery.

A few clinical cases were reported

W. A. McKenney read a paper on "Nephritis," which was pretty generally discussed.

J. A. Caldwell read a paper on "Peritonitis," which was discussed by Ed Wilson and others.

We had a very good meeting.

W. A. McKENNEY, Secretary.

Warren—The regular monthly meeting of the Warren County Medical Society was called to order by the President, T. O. Helm, on Wednesday, August 21st, at 1 o'clock p. m., in the Doctors' Club Room in the City Hall. Fifteen members were present, viz: J. H. Blackburn, G. E. Huddle, H. P. Cartwright, F. D. Cartwright, Rogers, S. J. Martin, Freeman, Neal, M. M. Moss, E. Rau, B. S. Rutherford, E. N. Hall, W. P. Drake, T. W. Stone.

J. H. Blackburn made a very entertaining and instructive talk on "Pulmonary Embolism," citing several cases. Reported three cases caused from fracture of femur, other cases came after child birth, and operations on the pelvis. Little found in the literature on the subject. Fatty embolism usually occurs within three days of injury.

H. P. Cartwright discussed the subject in a very comprehensive manner, and emphasized how little had been written on the subject in the last ten or twelve years. Cautioned great care in the handling of fractures of the hip or femur lower down. Noted not be manipulated in effort to get crepetus.

J. L. Neal reported a case of "Pulmonary Embolism."

F. D. Cartwright, B. S. Rutherford and J. H. Blackburn forcibly discussed the paper.

T. O. Helm read a paper on "Anti-Typhoid In-

oculation," and brought out discussion of interest on the subject.

B. S. Rutherford opened the discussion, approving the treatment.

A motion was made and seconded to have the next regular monthly meeting at Chalybeate Springs. On vote motion carried.

E. RAU, Acting Secretary.

Warren—The July meeting of the Warren County Medical Society was held in Franklin with the Tri-County Medical Society. There was a splendid attendance and luncheon was served in the new hospital by Dr. Guthrie.

L. H. SOUTH, Secretary.

THE TRUTH ABOUT MEDICINES

TURNER OBESITY CURE.—Dr. Turner's Obesity Cure belongs in the same category as the Marjorie Hamilton "cure". Money is obtained from victims under the pretense that dieting, exercise and purging are not a part of the treatment. After obtaining the money the victim finds that he must follow a strict diet, that he must exercise and that he must take medicines, sold by the concern, particularly "Dr. Turner's Concentrated Food Tablets" and "Dr. Turner's Special Food Tablets" which, when examined in the Association's Chemical Laboratory, corresponded in composition to evaporated whey. Attempts are also made to wheedle the victims into purchasing a "To-Kalon Keapshape Corset" or a "Neal Reducing Belt." Dr. Turner whose name is used in connection with this obesity cure is also the manager of the Vanadium Chemical Company, which exploits various vanadium preparations to the medical profession.—*Jour. A. M. A.*, June 22, 1912, p. 1961.

LOOK WHOM YOU TRUST.—As a business house would scout a request to cash a check presented by an unknown individual, so physicians should refuse to pay attention to the claims made by firms of unknown standing. Still more should they refuse to pay heed to any preparations put out by a firm which has once been shown to be unreliable, as much as a commercial concern would quickly and positively refuse to cash the draft of one whose paper has been found to be worthless. These thoughts are suggested by an inquiry concerning the value of phytoline, put out by the Walker Pharmaceutical Company. A report of the A. M. A. Chemical Laboratory on hyoscyne (*Jour. A. M. A.*, June 11, 1910), exploited by the Walker Pharmaceutical Company, shows that this firm puts out nostrums of the worst class, namely, the kind whose composition is falsely declared and hence should receive no consideration.—*Jour. Mo. State Medical Association*

ANNUAL NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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PRACTICE OF MEDICINE
W. F. BOGGESS

VOL. X.

BOWLING GREEN, KY., OCTOBER 1, 1912

No. 19

EDITORIAL

ENTERTAINMENT.

The arrangements for the entertainment of the members of the State Medical Association, at Louisville, have been so far completed as to enable us to make the following announcements:

Dr. Henry E. Tukey, Third and Broadway, Louisville, is Chairman, and Dr. A. C. L. Perceful, 835 South Fourth Avenue, Louisville, is Secretary of the Hotel and Information Committee, and either of them will be glad to give any information possible concerning the meeting and securing reservations at the hotels, and it is well to remember that the Hotel Watterson will be general headquarters and most of the members will stop there, but those who desire can secure quarters in private boarding houses, through either Dr. Tukey or Dr. Perceful.

A Committee composed of Drs. McMurtry, Morey and Hanes has arranged for a banquet to be given the visiting members by the local profession, at the Seelbach Hotel, on Wednesday night, October 30th, beginning at 7 o'clock. Visiting speakers, beautiful music, vocal and instrumental will, in addition to the viands which Dr. McMurtry and his Committee know so well how to order, beguile the time from 7 o'clock on until midnight. We feel sure that the members will never forget this banquet, which is to be given on a scale that has never been attempted before in Kentucky.

Drs. Frank, Wathen and Abell are acting as a Committee to arrange clinics for Monday, October 28th, and Friday and Saturday, November 1st and 2nd. These clinics will be held at the City Hospital from 8 o'clock until 12 o'clock in the morning, and in the after-

noon either at the Hospital or the college building, First and Chestnut, from two to five o'clock. A schedule of topics to be discussed is being rapidly arranged and will be published in the JEFFERSON COUNTY issue of the JOURNAL which will appear before the meeting. It will be of interest to the profession of the State to know that the doctors of Louisville have contributed more than \$1,500.00 for the entertainment of the State Society at this meeting. This is a small measure of the enthusiasm, cordiality and hospitality that will be extended to all of us by the splendid men who constitute the JEFFERSON COUNTY MEDICAL SOCIETY. It is up to the profession of the State to make such an adequate response as will show the Louisville doctors that we appreciate their efforts.

THE ANNUAL MEETING.

The Annual Meeting of the KENTUCKY STATE MEDICAL ASSOCIATION for 1912, will be held in Louisville, October 29, 30 and 31st. The first session of the House of Delegates will be on October 28th. The JEFFERSON COUNTY MEDICAL SOCIETY is united, active and aggressive in a way that it has never been before. Its officers and members are a unit in making such preparations for this meeting as will insure its success. They deserve and should receive the support of not only every county society but of the physicians and profession of the State in their efforts to break all records to make this the greatest medical meeting that has ever been held in Kentucky. It is especially important that every member who attends secure a certificate from his local ticket agent, when he purchases his railroad ticket, so that he can secure his return ticket for one-third fare.

The JOURNAL confidently promises every tired, hardworking physician who goes to Louisville such a hearty welcome and such a pleasant, profitable meeting that he will return home freshened up and stimulated for another year's work. This guarantee extends also to his wife, who more than in any other profession, shares the trials of the husband. Let's all get together and make the 1912 session the biggest and best yet held.

GET YOUR CERTIFICATE.

When you buy your ticket for Louisville, be sure to get a receipt from the local ticket agent on the certificate plan. It will entitle you to one-third fare in returning. If you fail to do this, you will have to pay full fare both ways as more than one-half of those who came to Paducah last year did.

BUSINESS.

This year again we publish in great detail reports of the ASSOCIATION'S officers, giving every item of expense and every step taken by them during the year. Have your resolutions, speeches and reports all ready for the House of Delegates. Ample time is given for any county society to instruct its delegates on any subject, and the delegate from every county society should confer with his fellows as to what should be done at the meeting. Every member is urged to read all the reports. It is your money being spent, your work being done, and if you are not familiar with all of its details, it is your fault not ours.

THE PROGRAM.

The program is again published in this issue. It is not quite complete but it promises enough good things to make it certain that no practicing physician can afford to miss it. We desire to call especial attention to the fact that the Committee on Scientific work has arranged for a full program for the third day; in fact, in many respects, the third day is the best of the three. Many of the papers will be illustrated by lantern slides and we will be able to see exactly what is being talked about.

THE DISCUSSIONS.

The KENTUCKY STATE MEDICAL ASSOCIATION is a democratic organization, where every man is his fellow's equal in opportunity anyway. If you are interested in any subject on this program and don't discuss it, it will be your own fault. When you have read the program, pick out the papers in which you are interested and write the Secretary at once. Every paper on the program is, or soon will be, in print. A proof will be sent any mem-

ber of any one paper. Then, will you, of your own experience and knowledge, deliberately and carefully, get up your discussions? Write it out if you prefer and hand it to the official stenographer just as you want it to appear in the JOURNAL. This plan worked well last year and will again this year, if the members like it. Write to-day for the paper you wish to discuss.

ORATIONS.

The annual oration will be delivered by the most forcible medical speaker in the South, Dr. John A. Witherspoon, President-Elect of the American Medical Association, of Nashville. Dr. Witherspoon is one of the most distinguished general practitioners of medicine in our country, and the message he bears will really be worth while.

Our orator in surgery, Dr. Arch H. Barkley, of Lexington, needs no introduction to the profession; that his address will be worth while, his work and worth guarantees.

Our orator in medicine, Dr. Curran Pope, of Louisville, has a manner and matter that will make his address noteworthy. You can't afford to miss either of these treats.

SCIENTIFIC EXHIBITS.

The scientific exhibits will be in the same rooms with the commercial exhibits. The Council has offered a premium of \$100.00 for the most instructive exhibit. Many good things are already promised. Eastern Kentucky will be strong with a line of special work on Pellagra. There is hardly a county in Kentucky, which has not had some cases of this disease. It may appear in your practice next. It will be worth your while to come to Louisville, if there were nothing else during the meeting but the scientific exhibit.

ONE HUNDRED DOLLAR PRIZE.

The Council desires to announce that \$100 in gold will be given for the scientific exhibit at the Louisville session, which will be most interesting and instructive for the general practitioner present. We trust some Kentucky doctor will arrange to get this prize.

COMMERCIAL EXHIBIT.

We will have the greatest commercial exhibit that has ever been in Kentucky. Only those firms can exhibit that are reputable and have something worth exhibiting. Instrument men, pharmacists and everything else of interest, including long distance telephone, will be on hand to show you the very latest. Save your orders until you can see what you want.

THE ASSOCIATION OF COUNTY SECRETARIES AND ASSOCIATE EDITORS.

The fourth annual meeting of the Association of County Secretaries will be held on Monday, October 28th, 7 to 9 P. M., at the Auditorium of the Jefferson County Medical Society, Atherton Building, Louisville, Kentucky.

The following program has been arranged and we urge that each county society arrange for their secretary to be present:

PROGRAM

Scope of Work of the Association, T. A. FRAZER, President, Marion.
The County Society, the Unit of Medical Organization, DELIA CALDWELL, Paducah.
Local Influence of the County Medical Society, A. C. L. PARCELT, Louisville.
Duties of the County Secretary, W. A. MCKENNEY, Falmouth.
How to Finance the County Society, J. J. ROEMAN, Owensboro.
The Value of Permanent Records of County Societies, F. A. STINE, Newport.
Need of Revision of Constitution and By-Laws, L. C. REDMAN, Lexington.
What is Expected of the Councilor in Maintaining County Organizations, C. Z. ARD, Cecilian.
Uniform Program for all County Societies, B. D. HANCOCK, Henderson.
Report of Committee of County Societies, Election of Officers.
Miscellaneous Business, T. A. FRAZER, Marion, President.
VERNON R. VITHE, Paducah, Vice Pres.
L. H. SOUTH, Bowling Green, Secretary.

IN APPRECIATION OF THE DOCTOR, WITH A WORD FOR THE OWEN BILL.

In this day of strenuous living of high prices and unpaid doctor's bills, the physician is apt to feel that he is neglected and is a failure. Of these, however, a word of encouragement from a grateful patient or a community, gives him new spirit to continue in his humanitarian work. The Century Magazine, in a recent issue, very kindly contributed a word of encouragement to the loyal doctor and we re-produce its tribute in full: "As one cannot draw an indictment against a community, so one cannot reasonably give sweeping approval of a profession; but now and then,—perhaps in the lifting shadow of some dread illness happily surmounted,—one is moved to a new sense of the obligations under which we all rest to the physician. Sometimes this is obscured by the conduct of those who "don the livery of heaven to serve the devil in"—a class against whom the profession wages persistent warfare; but on the whole not even "the cloth" presents a higher standard of service to humanity. Sordid and base, indeed, must be the man who can deliberately violate the solemn dedication of the Hippocratic oath, to which he must subscribe before he is accorded his degree:

I do solemnly swear by whatever I hold most sacred:

That I will be loyal to the profession of

medicine and just and generous to its members;

That I will lead my life and practice my art in uprightness and honor;

That into whatsoever house I shall enter, it shall be for the good of the sick to the utmost of my power, I holding myself far aloof from wrong, from corruption, from the tempting of others to vice;

That I will exercise my art solely for the cure of my patients and will give no drug, perform no operation for a criminal purpose even if solicited, far less suggest it;

That whatsoever I shall see or hear of the lives of men which is not fitting to be spoken, I will keep inviolably secret.

And there is need of this vow, if society is not to go to pieces, for little as we know of the physician, it is little of us that he does not know—our foibles and weaknesses, our sins and sorrows—and rare is the man or woman who is not debtor to his skill, his sympathy, his cheer, and his loyal devotion. It is always with a pang that we read of the death of such a doctor, trusting that he may have received in his last days some repayment in kind for all that he has given of service to others.

In the memory of many such experiences it is with indignation that one hears the rank and file of this noble profession pilloried as "the doctors' trust" by those opposed to the bill of Senator Owen for a National Department of Health. It is not necessary to probe for the motives of those who are fighting this admirable measure. Doubtless many, especially those of them who profess the faith of Christian Science, are conscientious, but nevertheless, under the banner of "medical freedom," they are playing into the hands of patent medicine manufacturers, adulterators of foods, and medical charlatans, to the peril of the public health. The Owen bill will merely extend to the whole country and make more effective the kind of sanitary guardianship which in the city of New York is accomplishing a progressive and astonishing reduction of the rate of mortality. Imagine for a moment the Department of Health of this city and port discontinued; it would not be forty-eight hours before we should be exposed to physical dangers comparable only to the brood of Pandora's box.

The fact is that in the practical application of preventive medicine American physicians are acknowledged to be the leaders of the world. They have not lost the primacy in this respect which twenty years ago led their confreres in Vienna to say: "We are astonished at your achievements; over here we wait with impatience for the publication of your volumes." Twenty-five years ago Mr. Bryce in his great book, "The American Commonwealth," quoted the appreciation of "com-

petent authorities" of our "contributions to biology and medical science." "Indeed, it is remarkable," he said, "how far from showy and sensational is the bulk of the work (in general science) now done in America." What must he say now of the great proportions which medical and surgical research have since attained! The pursuit of medicine in America fairly seethes with progress and interest. It has all the zest of exploration. Millions of dollars are invested in the study of diseases once thought incurable; unrelenting warfare is waged upon contagions, infections, and heredity; the education of the public on matters of health is systematic and thorough, and back of the professional honor which impels it all is a spirit of quiet altruism which is a better substitute for the knight-hood of the Middle Ages. Once more we say, gratitude and honor to the good physician!

HYDROPHOBIA OR RABIES.

The State Board of Health is glad to announce that it has been able to make arrangements with the Malford Company so it can secure the necessary preventable treatment by the Pasteur method, where persons are bitten by rabid animals so that the treatment may be given by the family physician. The necessary bacteriological preparation and complete outfit, including syringes and everything, will cost \$25.00. They can be supplied on the order of any health officer in the State.

Of course, it is to be understood that indigent cases will be continued to be treated, without expense, by the State Bacteriologist in the Laboratory at Bowling Green, and it is the desire of the Board that a liberal construction be placed on the term "indigent" in this connection. Where the patient is able to pay for the preventive treatment, however, there is no reason why it should not be given at home if his physician is prepared to administer it.

CONTAINERS.

Containers for bacteriological specimens are furnished free by the State Board of Health. It is against the United States Postal Laws to mail specimens in any containers except those supplied by the Laboratory. A number of physicians have been prosecuted and fined for mailing specimens in the wrong containers. We are publishing this so that our physicians may understand the matter. Any physician can get as many containers as he wants for any of the diseases for which examinations are made and they will not cost him one cent, so there is no excuse for any of our doctors being caught. Do not send in tuberculosis specimens in hookworm containers,

or vice versa. It will not be examined anyway as it does no good; besides, being a violation of the law.

MISSISSIPPI VALLEY.

We desire to call the special attention of the profession of Kentucky to the annual meeting of the Mississippi Valley Medical Association, which will be held this year in Chicago, with headquarters in the Hotel Sherman. The dates for the meeting are October 23rd and 24th. The program is an unusually good one in every respect but the profession of Kentucky will be chiefly interested in the meeting because it will be presided over by Dr. Louis Frank, one of the most popular surgeons in the State. It is especially important that the profession of Kentucky rally to Dr. Frank's support and help to make the 1912 meeting the biggest and best one this great Association has ever held. Be sure to remember the dates.

WELCOME HOME.

To all of ours members who have been wise and fortunate enough to take a summer vacation and have returned to their labors refreshed and rejuvenated, the JOURNAL extends a cordial welcome. This is especially and particularly extended to Dr. Joseph M. Mathews, who has received and merited all of the honors that could have been conferred upon him by the grateful medical profession of Kentucky, as well as by the entire profession of the United States. It is a pleasure and inspiration to have Dr. Mathews again in our midst and we are sure many of our members will attend the session in Louisville, gladdened by the prospect of again receiving a cordial welcome from this foremost of Kentucky physicians.

THE SHERLEY AMENDMENT TO THE NATIONAL FOOD AND DRUGS ACT.

Every physician in Kentucky should remember with gratitude Congressman Swager Sherley under the Fifth Kentucky District in which Louisville is situated for his action in securing the passage of amendment to the National Food and Drugs Act which practically puts the disreputable patent medicine vendors out of business. The amendment passed the House practically unanimously and was taken up in the Senate without being referred to a committee and passed unanimously. The JOURNAL extends its congratulations, not only to Congressman Sherley, but to the thousands of sick people who will be, in a measure, protected by this excellent law.

"AN ACT

TO AMEND SECTION EIGHT OF THE FOOD AND DRUG ACT APPROVED JUNE THIRTIETH, NINETEEN HUNDRED AND SIX.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That that part of section eight of the food and drugs Act of June thirtieth, nineteen hundred and six, defining what shall be misbranding in the case of drugs, be, and the same is hereby, amended by adding thereto a third paragraph to read as follows:

"If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false or fraudulent."

So that the said part of said section eight shall read as follows:

"Sec. 8. That the term 'misbranded,' as used herein, shall apply to all drugs or articles of food or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

"That for the purposes of this Act an article shall also be deemed to be misbranded. In case of drugs:

"First. If it be an imitation of or offered for sale under the name of another article.

"Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetaulide, or any derivative or preparation of any such substances contained therein.

"Third. If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false and fraudulent."

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM OF GENERAL MEETING

OPENING SESSION--TUESDAY, 9 A. M.

Call to Order J. G. CARPENTER, M. D., President
Opening Prayer REV. E. L. POWELL, Louisville
Address of Welcome JOSEPH M. MATHEWS, M. D., Louisville
Response J. W. ELLIS, Masonville
Valedictory of Retiring President
Installation of the President
Report of the Committee on Arrangements,
By EDWARD SPEIDEL, M. D., Chairman, Louisville.

ADDRESSES

President's Address at 9:40 A. M., Tuesday
By DAVID O. HANCOCK, M. D., Henderson.
Oration in Medicine at 12 M., Tuesday,
By CURRAN POPE, M. D., Louisville.
Annual Address at 8 O'clock P. M., Tuesday,
J. A. WITHERSPOON, M. D., Nashville.
Oration in Surgery, at 12 M., Wednesday,
By ARTHUR BARKLEY, M. D., Lexington.

SCIENTIFIC SESSION--10 A. M.

Acute Suppurative Otitis Media--Its Recognition and Treatment
by the General Practitioner,
By C. T. WOLFE, M. D., Louisville.
Infant Mortality--Its Causes and Prevention,
By H. R. TULLEY, M. D., Louisville.
Urine of Infancy and Childhood,
By R. J. ESTILL, M. D., Lexington.

SYMPOSIUM ON PHARMACOLOGY AND THERAPEUTICS.

Sense and Nonsense of Domestic Medicine,
By J. J. YOUTSKY, M. D., Newport.
Self Medication,
By J. H. HOHNSTEDT, M. D., Fort Thomas.
The Practical Nurse,
By J. O. JENKINS, M. D., Newport.

ORATION IN MEDICINE--SPECIAL ORDER 12 M.

Idealism in Medicine,
By CURRAN POPE, M. D., Louisville

TUESDAY AFTERNOON, OCTOBER 29

SCIENTIFIC SESSION--2 P. M.

SYMPOSIUM ON TUBERCULOSIS:

Radiographic Diagnosis of Tuberculosis,
By E. T. BRUCE, M. D., Louisville.
The Blood Picture in Tuberculosis,
By EVERETT MORRIS, M. D., Sulphur.

SYMPOSIUM ON PELLAGRA:

Pellagra,
By J. G. OWSLEY, M. D., Lily.
Symptoms and Diagnosis of Pellagra,
By M. W. STEELE, M. D., Corbin.
Unusual Types of Pellagra,
By F. H. CLAWKE, M. D., Lexington.
Pellagra as Related to Insanity,
By W. E. GARDNER, M. D., Lakeland.
Pellagra as a Public Health Problem,
By O. P. NUCKOLS, M. D., Pineville.
Pellagra in Eastern Kentucky--(Lantern Slides),
By J. H. HENDEREN, M. D., Cary.
Anterior Polio-Myelitis,
By J. A. AVERDICK, M. D., Covington.
Cerebro Spinal Meningitis,
By VERNON ROBBINS, M. D., Louisville.
Serum Treatment of Cerebro Spinal Meningitis,
By DONALD K. CLARK, M. D., of Louisville.
Cases of Cerebro Spinal Meningitis with Deductions,
By E. B. BRADLEY, M. D., Lexington.
The Surgical Solution of Certain Medical Problems,
By CHAS. A. L. REED, M. D., Cincinnati.
Management of Puerperia Previa,
By WALTER B. GOSSETT, M. D., Louisville.
Pathogenesis of Puerperal Eclampsia,
By GEO. A. IBERMAN, M. D., Newport.
Management of Puerperal Eclampsia,
By W. B. MOORE, M. D., Cynthia.

TUESDAY EVENING, OCTOBER 29

PUBLIC SESSION--8 P. M.

Annual Oration,
By J. A. WITHERSPOON, M. D., Nashville, Tenn.
President Elect American Medical Association.

WEDNESDAY MORNING, OCTOBER 30

SCIENTIFIC SESSION—9 A. M.

- Some Observations On Fractures.
By J. J. SHERILL, M. D., Louisville.
- The Indications for Tonsillectomy.
By J. M. RAY, M. D., Louisville.
- The Common Diseases of the Eye in Children; Their Recognition and Treatment by the General Practitioner.
By G. C. HALL, M. D., Louisville.
- Unexplained Pyrexia of Early Childhood.
By W. A. JENKINS, M. D., Louisville.
- Diagnostic Errors in the Diseases of Children.
By R. H. MOSS, M. D., Henderson.
- Shockless Operations Under Anæsthesia.
By G. W. CRILE, M. D., Cleveland.
- ORATION IN SURGERY—SPECIAL ORDER 12 M.
- The Present Status of Treatment of Fracture of Shafts of the Long Bones—With Lantern Slides.
By ARCH. H. BARKLEY, M. D., Lexington.

WEDNESDAY AFTERNOON, OCTOBER 30

SCIENTIFIC SESSION—2 P. M.

- Experimental Nephritis.
By MARTIN H. FISCHER, M. D., Cincinnati.
- Perinephritis.
By WM. L. CASH, M. D., Princeton.
- Vascular Tension in Chronic Illness.
By J. D. MUTTERS, M. D., Ashland.

SYMPOSIUM ON COOPERATIVE PUBLIC HEALTH WORK:

- "The Duty of the State in Protecting its Citizens from Unnecessary Disease and Death."
By HON. JAMES B. McCREARY, Governor of Kentucky, and President, *ex officio*, of the Kentucky Tuberculosis Commission.
- "The Public Health Problem, Constructive Efforts Towards its Solution."
By W. L. HEIZER, M. D., State Registrar of Vital Statistics.
- "What the Federation of Woman's Clubs Will Do to Conserve the Health and Lives of the Women and Children of Kentucky."
By Mrs. T. J. SMITH, President of the Kentucky Federation of Woman's Clubs, and Mrs. LAFOR RIEKER, Chairman of the Committee on Public Health of the Federation.
- "What Will Be Attempted by the State Department of Education to Lower the Sick and Death Rate of Kentucky."
By HON. BARKSDALE HAMLETT, Superintendent of Public Instruction of Kentucky.
- "Some Practical Public Health Work that Will Be Attempted by the Kentucky Press Association."
By HON. EDWARD SHINNICK, President of the Kentucky Press Association.
- "Plans of Cooperative Health Work that Will Be Presented for Action by the Kentucky Educational Association."
By PROF. R. W. McFARLAND, President of the Kentucky Educational Association.
- "Possibilities of Concerted Public Health Work by The Young Men's Christian Association."
By MR. PHILIP C. DIX, State Secretary of the Y. M. C. A. of Kentucky.
- "The Relation of the City Schools to the Health of the Community."
By PROF. E. O. HOLLAND, Superintendent of Louisville City Schools.
- "What is the Opportunity of the Ministers to Assist in Public Health Work, and How to Secure His Active Assistance."
By DR. E. L. POWELL, Pastor of the First Christian Church and DR. W. W. LAMUREM, Pastor of the Broadway Baptist Church, Louisville.
- "The Normal Schools of Kentucky and Their Opportunity to Conserve Health and Life in Kentucky."
By DR. FRED MITCHELL, Western State Normal, Bowling Green.
- Some Practical Phases of Intestinal Obstruction.
By W. D. HAGGARD, M. D., Nashville.
- The Passing of Destructive Operations in Obstetrics.
By EDWARD SPEIDEL, M. D., Louisville.
- Endometriosis.
By W. L. MOSBY, Bardwell.

THURSDAY MORNING, OCTOBER 31

SCIENTIFIC SESSION—9 A. M.

- Certain Surgical Conditions of the Right Upper Quadrant of the Abdomen.
By WOOLFOLK BARKOW, M. D., Lexington.

- Gunshot Wounds of the Intestines.
By CYRUS GRAHAM, M. D., Henderson.
- Therapeutics of Children.
By B. J. O'CONNOR, M. D., Louisville.
- Enteric Therapeutics of Childhood.
By F. F. BARBOW, M. D., Louisville.
- Alcohol; Its Therapeutic Uses and Limitations.
By W. F. BOGGS, M. D., Louisville.

THURSDAY AFTERNOON, OCTOBER 31

SCIENTIFIC SESSION—2 P. M.

- Typhoid Carriers.
By ARCH DIXON, M. D., Henderson.
- Vaccine Therapy.
By JOHN H. BLACKBURN, M. D., Bowling Green.
- Arterial Sclerosis, Early Diagnosis.
By W. C. USSERY, M. D., Paris.
- Complications of Typhoid Fever.
By A. S. DENTON, M. D., Richards.
- Diagnosis of Epilepsy.
By JOHN J. MOREN, M. D., Louisville.
- The Care of the Breasts During Pregnancy and Lactation.
By S. L. BEARD, M. D., Shelbyville.
- The Care of the New Born.
By T. A. FRAZER, M. D., Marion.
- Injuries to the Soft Parts During Labor.
By DELIA CALDWELL, M. D., Paducah.

PROGRAM OF HOUSE OF DELEGATES

FIRST SESSION—HOUSE OF DELEGATES

MONDAY 3 TO 5 P. M.

- Called to Order by the President.
J. G. CARPENTER, M. D.
- Report on Credentials.
T. A. FRAZER, M. D., Chairman.
- Roll Call by the Secretary.
Report on Program.
Minutes of 1911 Meeting.
- Report on Arrangements.
EDWARD SPEIDEL, M. D., Chairman.
- Report of Officers.
President's Report.
Secretary's Report.
Report of the Council.
Report of Councilors by Districts.
Reports of Delegates by Counties.
Miscellaneous Business.

SECOND SESSION—HOUSE OF DELEGATES

MONDAY 7 TO 9 P. M.

MEETING OF COUNTY OFFICERS AND EDITORS.

PROGRAM.

- Scope of Work.
T. A. FRAZER, M. D.
- The County Society, The Unit.
DELIA CALDWELL, M. D.
- Influence of the County Society.
A. L. C. PERCEFUL, M. D.
- Duties of the County Secretary.
W. A. McKENNEY, M. D.
- How to Finance the County Society.
J. J. RODMAN, M. D.
- Value of Permanent Records.
F. A. STINK, M. D.
- Revision of Constitution and By-Laws.
L. C. REMOS, M. D.
- Councillors in County Organization.
C. Z. AUD, M. D.
- Uniform Program for County Societies.
D. O. HANCOCK, M. D.
- Report of Committee on County Societies.
Election of Officers of Association.
Miscellaneous Business.

THIRD SESSION—HOUSE OF DELEGATES

TUESDAY 8 TO 9 A. M.

- Roll Call (Supplemental Enrollment).
Minutes of Previous Session.
Report of each Chairman on Program. (Sectional Committees).
- THE KENTUCKY MEDICAL JOURNAL.
Report of Committee on the JOURNAL.
WALTER BRYNE, M. D., Chairman.
- Editor's Report.
Business Manager's Report.

Value of the JOURNAL,
 Editors and Editorials,
 Value of Reports from County Societies,
 General Discussion of THE JOURNAL.
 Miscellaneous Business.

H. B. ALLEN, M. D.

V. E. SIMPSON, M. D.

B. S. RUTHERFORD, M. D.

"How Shall We Secure Medical Laws?"

J. A. MAHAFFEY, M. D.

"Are Our Efforts Altruistic?"

DUNNING S. WILSON, M. D.

General Discussion of the Subject.

Miscellaneous Business.

MISCELLANEOUS BUSINESS

FOURTH SESSION--HOUSE OF DELEGATES

TUESDAY, 7 O'CLOCK P. M.

Roll Call (Supplemental Enrollment).

Minutes of Morning Session.

Report of the Chairman of Sectional Committee.

Report of the Committee on Insurance.

J. W. ELLIS, M. D., Chairman.

"Do We Demand \$5.00 For Examinations?"

J. TOM PRICE, M. D.

"What Shall We Do to Doctors Who Examine for Less?"

JOHN G. CECIL, M. D.

"Are Our By-Laws Uniform on the Subject?"

HUGH D. RODMAN, M. D.

"Is the Collection Bureau Plan Practicable?"

F. A. STINE, M. D.

General Discussion of Insurance.

Report of Committee on Legislation and Public Policy.

C. Z. AED, M. D., Chairman.

"What of Interest Was Enacted in 1912?"

J. S. LOCK, M. D.

"What Laws are Needed for the Future?"

J. C. MCCREARY, M. D.

FIFTH SESSION--HOUSE OF DELEGATES

WEDNESDAY, 7 O'CLOCK P. M.

Roll Call (Supplemental Enrollment).

Minutes of Previous Session.

Reports of Committees.

Medico-Legal.

JOHN J. MOREN, M. D. Chairman.

Medical Education.

W. W. RICHMOND, M. D., Chairman.

Expert Testimony.

J. N. MCCORMACK, M. D., Chairman.

Ophthalmia Neonatorum.

S. G. DABNEY, M. D., Chairman.

County Societies.

E. W. WEATHERS, M. D., Chairman.

Principles of Ethics.

OSCAR KEEN, M. D., Chairman.

Constitution and By-Laws.

MARSHALL McDOWELL, M. D. Chairman.

Public Health and Sanitation.

H. P. CARTWRIGHT, M. D., Chairman.

Anti-Tuberculosis Campaign.

U. V. WILLIAMS, M. D., Chairman.

Collection Bureau Plan.

F. A. STINE, M. D., Chairman.

Election of Guests.

C. W. HIBBITT, M. D., Chairman.



FIRST CHRISTIAN CHURCH--FOURTH STREET, LOUISVILLE, KY.

(DR. POWELL'S CHURCH)

All Sessions of Kentucky State Medical Association for 1912 Will Be Held Here

Division of Fees, J. R. DINK, M. D., Chairman.
 Finance, GEO. J. HERMAN, M. D., Chairman.
 Report of Officers, C. O. STEPHENSON, M. D., Chairman.
 Permanent Committees, J. F. GLASSCOCK, M. D., Chairman.

SIXTH SESSION--HOUSE OF DELEGATES

THURSDAY, 8 O'CLOCK A. M.

Roll Call (Supplemental Enrollment).
 Report of Chairman of Sectional Committees.
 Final Report of Committee on Credentials.
 Election of Officers,
 President,
 Vice-President,
 Second Vice-President,
 Third Vice-President,
 Delegates to American Medical Association,
 Orator in Medicine,
 Orator in Surgery,
 Councillor for First District,
 Councillor for Second District,
 Councillor for Tenth District,
 Place of Meeting.
 Appointment of Permanent Committees.
 Unfinished Business.
 Final Adjournment of House of Delegates.

OFFICIAL CALL.

THE FIFTY-SEVENTH ANNUAL SESSION OF THE
 KENTUCKY STATE MEDICAL ASSOCIATION
 TO BE HELD IN LOUISVILLE, OCTOBER
 28, 29, 30, AND 31, 1912.

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association:

The Fifty-Seventh Annual Session of the Kentucky State Medical Association will convene in the Auditorium of the First Christian (Dr. Powell's) Church, Louisville, Kentucky, on Tuesday, Wednesday and Thursday, October 29, 30 and 31st, 1912.

THE HOUSE OF DELEGATES.

The House of Delegates of the Kentucky State Medical Association will convene in the Auditorium of the Jefferson County Medical Society in the Atherton Building, at 1:30 P. M., on Monday, October 28th, 1912.

FIRST GENERAL SESSION.

The First General Session, which constitutes the opening exercises of the scientific functions of the Association, will be held in the Auditorium of the First Christian (Dr. Powell's) Church, Louisville, Kentucky, at 9 A. M., Tuesday, October 29th, 1912.

THE COUNCIL.

The Council will convene in a parlor of the Hotel Watterson, at 11 A. M., Monday, October 28th, 1912.

THE SECRETARIES OF COUNTY SOCIETIES.

The Association of Secretaries of County Societies will meet in the Auditorium of the Jefferson County Medical Society, in the Ath-

erton Building, at 7 to 9 P. M., Monday, October 28th, 1912.

THE REGISTRATION DEPARTMENT.

The Registration Department will be opened in the Exhibit Hall, on the main floor of the First Christian (Dr. Powell's) Church, from 10 A. M., to 7 P. M., on Monday, October 28th; from 8 A. M. to 7 P. M., Tuesday and Wednesday, October 29th and 30th, and from 8 A. M. to 11:30 P. M., on Thursday, October 31st.

APPORTIONMENT.

Each chartered component county society will be entitled to the number of delegates opposite its name on the following list. Each society is entitled to one delegate for each twenty-five members, or major fraction thereof, whose dues have been paid to the State Association in accordance with the By-Laws:

Adair	1	Knox	1
Allen	1	Larue	1
Anderson	1	Laurel	1
Ballard	1	Lawrence	1
Barren	1	Lee	1
Bath	1	Letcher	1
Bell	1	Lewis	1
Boone	1	Lincoln	1
Bourbon	1	Livingston	1
Boyd	1	Lyon	1
Boyle	1	McCracken	2
Bracken	1	Meade	1
Breathitt	1	Madison	1
Breckinridge	1	Mageson	1
Bullitt	1	Marion	1
Caldwell	1	Marshall	1
Calway	1	Martin	1
Campbell	4	Meade	1
Carlisle	1	Mercer	1
Carroll	1	Mertalle	1
Carrier	1	Monroe	1
Cass	1	Montgomery	1
Christian	2	Morgan	1
Clay	1	Muhlenburg	1
Clinton	1	Neison	1
Crittenden	1	Nicholas	1
Cumberland	1	Ohio	1
Daviess	3	Oldham	1
Elliott	1	Owen	1
Estill	1	Owsley	1
Fayette	3	Pendleton	1
Fleming	1	Perry	1
Franklin	1	Pike	1
Fulton	1	Powell	1
Gallatin	1	Pulaski	1
Garrard	1	Robertson	1
Grant	1	Rockcastle	1
Graves	1	Rowan	1
Grayson	1	Russell	1
Green	1	Scott	1
Greenup	1	Shelby	1
Hancock	1	Simpson	1
Hardin	1	Taylor	1
Harrison	1	Todd	1
Hart	1	Trigg	1
Henderson	2	Trimble	1
Henry	1	Union	1
Hickman	1	Warren	2
Jefferson	9	Washington	1
Jessamine	1	Wayne	1
Johnson	1	Webster	1
Knott	1	Wolfe	1
		Woodford	1

COMMITTEE ON ARRANGEMENTS OF THE JEFFERSON COUNTY MEDICAL SOCIETY

ARRANGEMENTS—Jefferson County Medical Society, Edward Spindel, M. D., President; A. C. L. Percell, M. D., Secretary.

HOTEL AND INFORMATION—Henry E. Tulay, M. D., Chairman; A. C. L. Percell, M. D., Secretary.

ENTERTAINMENT—L. S. McMurtry, M. D., Chairman; John J. Moren, M. D., Secretary; G. S. Hanes, M. D.

CLINICS—W. H. Wathen, M. D., Chairman; Irvin Abell, M. D., Secretary; Louis Frank, M. D.

FINANCE—E. L. Henderson, M. D., Chairman; Milton Board, M. D., D. V. Keith, M. D., Gay P. Grigsby, M. D.

E. F. Harine, M. D., J. H. Lukins, M. D., Jethra Hancock, M. D., J. A. O. Brennan, M. D., W. Barnett Owen, M. D., Wm. A. Keller, M. D., C. G. Forsee, M. D., B. J. O'Connor, M. D., H. A. Davidson, M. D., C. T. Wolfe, M. D., Wm. Sanders, M. D.

PERMANENT COMMITTEES.

SCIENTIFIC WORK—D. O. Hancock, M. D., Chairman; W. A. Poole, M. D., A. T. McCormack, Secretary.

SUB-COMMITTEES OF COMMITTEES ON SCIENTIFIC WORK.

(1). Surgery—4 hours—U. A. Hendon, Chairman, A. D. Wilmoth, Secretary.

(4). Diseases of Children—3 hours—W. F. Bogokas, Chairman, Wm. A. Jenkins, Secretary.

(3). Pharmacology and Therapeutics—3 hours—W. W. Anderson, Chairman, W. E. Skouff, Secretary.

(4). Practice of Medicine—4 hours—B. F. Zimmerman, Chairman, Virgil E. Simpson, Secretary.

(5). Nervous and Mental Diseases—3 hours—Geo. P. Sprague, Chairman, John J. Moore, Secretary.

(6). Preventive Medicine and Public Health—3 hours—W. L. Heizer, Chairman, J. Hancock, Secretary.

(7). Obstetrics and Diseases of Women—3 hours—J. T. Kendrick, Chairman, C. E. Kidd, Secretary.

MEDICO-LEGAL—J. J. Moore, M. D., W. B. McClure, M. D., A. T. McCormack, M. D., Secretary.

LEGISLATION AND PUBLIC POLICY—C. Z. Aud, M. D., Walter Byrne, M. D., L. L. Robertson, M. D.

MEDICAL EDUCATION—W. W. Richmond, M. D., D. M. Griffith, M. D., C. Z. Aud, M. D.

EXPERT TESTIMONY—J. N. McCormack, M. D., Curran Pope, M. D., David Harrow, M. D.

OPHTHALMIA NEONATORUM—S. G. Dahney, M. D., J. A. Stucky, M. D., Adolph O. Engert, M. D.

REFERENCE COMMITTEES.

INSURANCE—J. W. Ellis, M. D., W. O. Eaton, M. D., C. A. Vance, M. D.

THE JOURNAL—Walter Byrne, Sr., M. D., M. P. Creel, M. D., Carl L. Wheeler, M. D.

CREDENTIALS—T. A. Freyer, M. D., E. L. Rushby, M. D., W. C. Simmons, M. D.

COUNTY SOCIETIES—E. W. Weathers, M. D., M. H. Hyatt, M. D., U. V. Williams, M. D.

PRINCIPALS OF ETHICS—Oscar Keen, M. D., W. S. Sandbach, M. D., J. L. Anderson, M. D.

CONSTITUTION AND BY-LAWS—Marshall McDowell, M. D., J. H. Hussey, M. D., W. O. Hopper, M. D.

PUBLIC HEALTH—H. P. Cartwright, M. D., C. B. Dierston, M. D., Charles L. Heath, M. D.

ANTI-TUBERCULOSIS CAMPAIGN—U. V. Williams, M. D., C. H. Todd, M. D., F. G. LaRue, M. D.

ELECTION OF GUESTS—C. W. Hibbit, M. D., A. V. Menefee, M. D., W. H. Wheeler, M. D.

COLLECTION BUREAU PLAN—F. A. Stine, M. D., Char. G. Daugherty, M. D., Cuthbert Thompson, M. D.

DIVISION OF FEES—J. R. Dink, M. D., A. H. Durham, M. D., J. F. Daugherty, M. D.

FINANCE—George J. Herman, M. D., O. R. Reesor, M. D., A. M. Zaring, M. D.

PERMANENT COMMITTEES—J. F. Glascock, M. D., J. J. Adams, M. D., T. B. Brooks, M. D.

REPORT OF OFFICERS—C. G. Stephenson, M. D., J. E. Kinchloe, M. D., J. L. Egeen, M. D.

RESOLUTIONS—J. D. Sory, M. D., George Purdy, M. D., C. H. McCord, M. D.

ANDERSON
BOONE
CARROLL

FIFTH DISTRICT.

FRANKLIN
GALLATIN
JEFFERSON

OWEN
SPENCER

SIXTH DISTRICT.

MARION
MARCKER

TAYLOR
WASHINGTON

ADAIR
BOYLE
GREEN

SEVENTH DISTRICT.

CASBY
CLINTON
GARRARD

RUSSELL
WAYNE

EIGHTH DISTRICT.

BOURBON
BRACKEN
CAMPELL-KENTON
FLEMING
GRANT

HARRISON
JENAMINE
MASON
NICHOLAS

PENDLETON
ROBERTSON
SCOTT
WOODFORD

NINTH DISTRICT.

BOYD
CARTER
ELLIOTT
FLOYD

JOHNSON
LAWRENCE
LEWIS

MAGOFFIN
MARTIN
PIKE

TENTH DISTRICT.

BATH
BREATHITT
CLARK
ENTILL
FAVETTE
KNOTT

LEE
LETCHER
MADISON
MENTIFE
MONTGOMERY

MORGAN
OWSLEY
PERRY
POWELL
ROWAN
WOLFE

ELEVENTH DISTRICT.

BELL
CLAY
HARLAN

JACKSON
KNOX
LAUREL

LESLIE
WHITLEY

OFFICERS FOR THE YEAR 1912.

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President Elect D. O. HANCOCK, Henderson
Vice-President DELIA CALDWELL, Paducah
Vice-President W. L. MOSBY, Bardwell
Vice-President M. W. STEELE, Corbin
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I. F. HAMMOND, Dunnville
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J. W. KINCAID, Calhounburg
I. A. SHIRLEY Winchester
J. S. LOCK, Barbourville

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION, KENTUCKY—4.

CURRAN POPE Louisville
A. T. MCCORMACK Bowling Green
J. W. ELLIS Masonville
W. W. RICHMOND Clinton

MEMBERS OF STATE BOARD OF HEALTH.

DR. JOHN G. SOUTH, President Frankfort
DR. GEO. T. FULLER Mayfield
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DR. W. W. RICHMOND Clinton
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DR. E. H. MARK, State Sanitary Engineer Bowling Green
DR. W. L. HEIZER, State Registrar of Vital Statistics Bowling Green
PROF. FRED D. MITCHELL, Assistant Chemist and Bacteriologist Bowling Green
DR. L. H. SOUTH, State Bacteriologist Bowling Green
DR. A. T. MCCORMACK, Assistant Secretary and Chief Sanitary Inspector Bowling Green

COUNCILOR DISTRICTS.

FIRST DISTRICT.

BALLARD
CALDWELL
CALLOWAY
CARLISLE

FELTON
GRAYES
HICKMAN
LIVINGSTON

LYON
MARSHALL
MCCracken
TRIGO

SECOND DISTRICT.

BRECKINRIDGE
CRITTENDEN
DANFELS
HANCOCK

HENDERSON
HOPKINS
MCLEAN
MULLENBARGER

OHIO
UNION
WEBSTER

THIRD DISTRICT.

ALLEN
BARREN
BUTLER
CHRISTIAN

CUMBERLAND
LOGAN
MERCALUTE
MARION

WARREN-EDMONDS
SIMPSON
TODD

FOURTH DISTRICT.

BULLITT
GRAYSON
HARDIN
HART

HENRY
LARUE
MEADE

NELSON
OLDHAM
SHELBY

THE COMMERCIAL EXHIBIT AT LOUISVILLE.

The commercial exhibit at the Louisville session will have commodious quarters in the Assembly Hall of the First Christian Church; the scientific exhibit, the postoffice, the information bureau, the registration booths will occupy the same room.

Books, surgical instruments, diagnostic and therapeutic appliances, electric and X-ray apparatus, and many other specialties of practical value will be found in the exhibit hall. Well known pharmaceutical houses and manufacturers of therapeutic dietetic and biological specialties will be represented.

The Council offers the price of space used as a prize to the commercial exhibit which is of highest scientific and educational value to the general practitioner in attendance. There will be telephone booths in the exhibit room giving direct service throughout the building, to local telephone subscribers and for long distance.

In addition to the exhibits of firms mentioned below, valuable educational exhibits will be shown by the State Pharmaceutical Association, the Pure Food and Drug Bureau, United States Bureau of Animal Industry, the State Board of Health, consisting of the Bureau of Vital Statistics, the Bacteriological Laboratory, the Bureau of Sanitary Engineering, the Department for the Eradication of Hookworm.

Careful inspection of the exhibits is urged on every member in attendance.

W. B. SAUNDERS COMPANY.

W. B. Saunders Company, Philadelphia and London, will occupy space 28.

This well-known house will exhibit Murphy's "Surgical Clinics," Kelly's "Cyclopedia of American Medical Biography," Musser and Kelly's "Treatment," Cabot's "Differential Diagnosis," Hurst's "Obstetrics," [new (7th) edition], Stiles' "Nutritional Physiology," Daugherty's "Economic Zoology," Davis' "Operative Obstetrics," Mayo Clinic Papers, Moynihan's "Duodenal Ulcer" [new (2nd) edition], Anders and Boston's "Medical Diagnosis," Niles' "Pellagra," Kemp's "Stomach, Intestines and Pancreas," [new (2nd) edition], Pilcher's "Cystoscopy," "Fenger Memorial Volumes," Keen's "Surgery," Dorland's "Illustrated Dictionary," [new (6th) edition], Munford's "Surgery," Crandon and Ehrenfried's "Surgical After-Treatment," [new (2nd) edition], Seudder's "Tumors of the Jaws," also advance sheets of DeVee's "Obstetrics."

THE DE VILBISS MANUFACTURING COMPANY.

The DeVilbiss Manufacturing Co., of Toledo, Ohio, will have on display, Space No. 15,

at the Kentucky State Medical Meeting, to be held at Louisville, in October, a complete line of DeVilbiss Atomizers, Nebulizers and Powder Blowers; both for Physicians' office use and prescription purposes.

Members attending this meeting are invited to call at the DeVilbiss booth, which will be in charge of their representative, Mr. J. H. Nutt, who will be pleased to demonstrate the merits of the DeVilbiss line.

MUDLAVIA, KRAMER, INDIANA.

The institution that has popularized and perfected Mud Baths as a therapeutic agent in America will exhibit, by means of views and descriptive literature, the institution and treatment features. They will be represented by one of the Medical Staff. Space No. 5.

G. W. CARNRICK CO.

Messrs. G. W. Carnrick Co., manufacturing chemists and specialists in digestive ferment and internal secretion products, will exhibit at Booth No. 2.

Trypsogen. The enzyme and hormone treatment of diabetes mellitus which is based on the now accepted fact that diabetes is due to a deficient supply or absence of the internal secretion of the islands of Langerhans and that there is also absence or deficiency of trypsin and amyllopsin.

Trypsogen exerts a profound influence over nutrition. The first evidence of which is usually a marked increase in weight and strength, which is generally followed by definite improvement in urinary symptoms.

The value of Trypsogen in the treatment of diabetes and other wasting diseases of metabolism has been very thoroughly demonstrated during the past eight years until it is now recognized as the most dependable and successful treatment in these different conditions.

Secerogen contains the newly discovered hormone secretion which Baylis and Starling proved was the natural and in the case of the pancreas and liver the only stimulus which determines the discharge of their enzymes into the digestive tract just when they are needed and at the same time causes the building up of new ferment material.

According to Pavlov, enzymes as found in the digestive glands are incomparably superior to the strongest commercial extracts, hence where there is food stasis from deficient ferment action, resulting in fermentation and putrefaction, eructations, flatulence, etc., the most effective measure is the administration of Secerogen, which overcomes the condition by causing a profuse flow of the enzymes of the stomach, liver and pancreas.

Kinazyme the enzyme treatment of tuberculosis is founded on the work of Bayles and Joly of France with extract of spleen in the treatment of tuberculosis. In 150 cases treat-

ed by the former there were 75 per cent of cures, some at a very advanced stage. Joly records decided results in 93 per cent. of 83 cases.

Kinazyme is prepared from extract of spleen, trypsin, pancreatic extract and calcium lactate. It has given marked results in several hospitals and sanatoriums devoted to the treatment of tuberculosis.

SHARP AND SMITH.

Doctor: You are cordially invited to inspect our large display of instruments, comprising the latest and most improved patterns. Our representative Mr. E. F. Hutechraft will be in charge and will give you a useful souvenir of the occasion.

SHARP & SMITH,

Makers of High Grade Surgical Instruments, Hospital Equipment and Elastic Goods, Chicago, Illinois.

HORLICK'S MALTED MILK.

Mr. S. Z. Bryson will be in full charge of our exhibit, and as in former years will serve the famous Horlick's Malted Milk Ice Cream, and distribute samples of our product in both powder and tablet forms, also give out literature pertaining to the many uses of our product.

Horlick's Malted Milk consists of pure, full-cream milk, combined with the soluble extracts of choice malted grains, containing all the carbohydrates, protein and mineral salts needed to make a well-balanced food. As a food for infants and growing children it is unequaled, and thousands of infants have been raised to a healthy, happy and robust childhood by the use of our product, which is an endorsement in itself of the highest value.

HENRY K. WAMPOLE AND COMPANY.

Henry K. Wampole & Co., Inc., Philadelphia, Penn., exhibit a line of pharmaceutical preparations noteworthy for its elegance and typifying the highest standards in the work of the pharmacist. Fluidextracts, Elixirs, Syrups, Solutions, Pulverous Pills, Compressed and Hypodermic Tablets, Soft Elastic and Hard Gelatin Capsules are fittingly and attractively displayed, and impress the visitor with the exceptional facilities and careful methods which combine to give these products an eminent position in the class of pharmaceuticals. An exhibition which all in all will attract and impel your interest.

DR. H. M. ALEXANDER AND COMPANY.

At the coming meeting of your State Medical Association we will exhibit the different forms in which the several products of our Laboratories are marketed, including Smallpox Vaccine, Diphtheria Antitoxin, Tuberculin, Pasteur Antirabic Treatment and Silver

Nitrate Solution. Literature descriptive of these products will also be distributed.

TERRE HAUTE INHALATORIUM CABINET CO.

The Terre Haute Inhalatorium Cabinet Co., Terre Haute, Ind., Space 20, will contain an exhibit of the Inhalatorium manufactured by the company. All progressive physicians will be interested in this exhibit. The Inhalatorium is used in treating catarrh, hay fever, septic bronchitis following influenza, bronchitis, asthma, and pulmonary tuberculosis by means of volatilized medication.

DUNDEE WOOLEN MILLS.

The Dundee Woollen Mills will exhibit latest styles in suits, all made to measure. They wear a long time, fit well and are very, very stylish.

MELLIN'S FOOD COMPANY.

Mellin's Food Company will exhibit their product and give this year especial attention to the much discussed subject—Carbohydrates in Infant Feeding. Representatives of the Company will be in readiness to furnish visiting physicians the analysis of Mellin's Food, showing the relative amount of maltose and dextrin in their product, and offer much evidence to substantiate their claim that the carbohydrate content of Mellin's Food answer all the requirements for a sugar in infant Feeding.

CHAS. H. PHILLIPS CHEMICAL COMPANY.

The C. H. Phillips Chemical Co., New York, will exhibit:

1. *Milk of Magnesia*—a pure Hydroxide of Magnesia. "The perfect antacid" and milk modifier.

2. *Phosphomuriate of Quin. Comp.*—Condensed form of tonic solution and cell builder.

3. *Phillips' Emulsion of Cod Liver Oil.*—Fine as the fat in chyle—ready for assimilation.

4. *Digestible Cocoa.*—A nourishing, easily digested food—substitute for plain milk when latter is not liked or is tired of.

In addition to this we will show the relative neutralizing powers of the various alkalies as compared with "milk of magnesia," by the methylorange color reaction, and the action of artificial gastric juice on milk (at digestive temperature) modified by the various antacids used by the profession, including of course milk of magnesia.

MALTINA COMPANY.

The Maltine Company will be represented by Dr. J. S. Sullivan, who will direct the attention of the members especially to the Company's new preparation—Maltine with Olive Oil and Hypophosphites. He will be prepared to present to physicians not only specimens

of this preparation, but also of the Olive Oil which is used in its manufacture.

The Olive Oil used in Maltine with Olive Oil and Hypophosphites is the finest and purest oil procurable in Italy, where it is especially selected for and exported to The Maltine Company.

While the taste and odor of Cod-Liver Oil are very effectively masked in Maltine with Cod-Liver Oil, the fact remains that many persons have a prejudice, probably largely due to mental suggestion, to Cod-Liver Oil. During the last few years the medicinal value of Olive Oil has been demonstrated by many prominent physicians, and this bland vegetable oil is rapidly taking the place of Cod-Liver Oil with satisfactory and often brilliant results in cases in which the latter is not taken with ease.

THE JAECKH MANUFACTURING COMPANY.

The Jaeckh Manufacturing Company are the sole manufacturers of Dr. John Robertson's inventions and cordially invite you to inspect their exhibit of the Robertson Gold Metal Spraying and Nebulizing Outfit. The Improved Robertson Vacuum Cleaning Machine, tools and equipment. Compressed Air Sprayers, Air and Vacuum machines, all kinds of new atomizers, sprays, nebulizers.

D. APPLETON AND COMPANY, NEW YORK.

Will exhibit most recent medical books, published by them. A new eighth edition of Osler's Practice of Medicine, completely revised and printed from new plates, is just ready. Osler's monograph is offered in conjunction with Struppell's and Dieulafoy's Text-books in what is known as "the World's Great Practice of Medicine." Rachford's "Pediatrics," Guiteras' "Urology," Wood's "Pellagra," Walsh's "Psychotherapy," McCurdy's "Oral Surgery," and Gardner's "Gynecology," are some of the new works, while new editions include Kelly's "Medical Gynecology," Williams' "Obstetrics." Advance sheets of several important forthcoming books will be shown.

ABBOTT ALKALOIDAL COMPANY.

The special features of the exhibit of this company will be the demonstration of the methods of manufacturing granules of the active-principle and similar remedies by skilled laboratory workers, illustrating the hand methods. In addition this company will present a large line of alkaloidal and active-principle remedies, as they extract them from the drugs and in finished forms. Their interesting line of Council-passed specialties will also be demonstrated.

PITMAN-MYERS COMPANY.

The Pitman-Myers Company's exhibit will contain a number of preparations of U. S. P.

and N. F. formulas as well as some tablets and other preparations largely used by our members.

They are showing these preparations in special containers—glass tubes about five feet long—which permit a better display than if in bottles. It also makes the preparations more easily examined by those who visit the exhibit.

Mr. H. C. Moore, S. W. Ruch and J. R. McIntosh will be at the exhibit ready to meet their numerous friends among our members.

CUMBERLAND TELEPHONE AND TELEGRAPH CO.

The Cumberland Telephone and Telegraph Company will exhibit all the modern telephone and exchange system, they will have direct service throughout the building and will give special attention to long distance calls.

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PA. DUCAH IN 1902 AS AMENDED.

CONSTITUTION

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II.—PURPOSES OF THE ASSOCIATION.

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar Associations in other States to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4. GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privilege of participating in all of the scientific work of that Session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1), Delegates elected by the component county society, and (2), *ex-officio*, the officers of the Association as defined in Article VIII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these of-

ficers shall serve until their successors are elected and installed.

Sec. 3. The Officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES.

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Association and profession.

ARTICLE X.—REFERENDUM.

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XI.—THE SEAL.

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.**CHAPTER I.—MEMBERSHIP.**

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be

eligible to any office within the gift of the Association.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right of membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION.

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the state fixed at the preceding annual session.

Sec. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III.—GENERAL MEETING.

Section 1. The General Meetings shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Session as far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and

public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate. In case the regularly elected delegate is unable to attend the annual meeting of the Association, the President of the county society shall have the power to appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and

of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interest of the Association and profession will be prompted thereby, organize in each district medical society, to meet midway between the Annual Sessions of the Association, and members of the chartered county societies, and none others, shall be members in such district societies. When so

organized from the President of such district societies shall be chosen the Vice Presidents of this Association, and the Presidents of the county societies of the district shall be the Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions or JOURNAL.

CHAPTER V.—ELECTION OF OFFICERS.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees, the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or re-

moval, the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Association and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as Chairman of the Committees on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled

to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—COUNCIL.

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report of the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the next annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an

individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the Association, and all money paid to the Secretary as dues shall be received as subscriptions to the JOURNAL. All money received by the JOURNAL, the Councilor or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual session shall be within the control and direction of the Council.

CHAPTER VIII.—COMMITTEES.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Education.

A Medico-Legal Committee.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, or to the provisions of the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business

shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee of Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and the Treasurer shall be the other two members *ex officio*. This Committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and, if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

CHAPTER IX.—ASSESSMENTS AND EXPENDITURES.

Section 1. The assessment of two dollars and fifty cents per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-affiliated physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessment, or makes the reports re-

quired, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

CHAPTER X.—RULES OF CONDUCT.

The principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XI.—RULES OF ORDER.

The deliberations of this Association shall be governed by parliamentary usage, as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII.—COUNTY SOCIETIES.

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be had to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this As-

sociation and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority, may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time for the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each twenty-five or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the annual session.

Sec. 13. The Secretary of each county so-

ciety shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the KENTUCKY MEDICAL JOURNAL full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

CHAPTER XIII. AMENDMENTS.

These By-Laws may be amended by any annual session by a two-thirds vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

REPORT OF THE COUNCIL.

To the House of Delegates:

We have the honor of submitting the following report of the activities of the Council for the current year:

It is a matter of regret that the paid membership on September 1st does not show the usual increase. We feel confident that from the 400 physicians who are delinquent in their dues to their county society, more than enough will be collected before the meeting to overcome this. It is a pleasure to report the usual increase from our JOURNAL. Our JOURNAL income from advertising and other sources for the year has been \$5,910.56, as against \$5,385.00 last year. The actual expense of publishing the JOURNAL for the last fourteen months, 28 issues, amounted to \$7,014.00, making the net cost of the Journal for this time \$1,103.44. We feel a considerable pride in the fact that since October, 1906, during this time the JOURNAL has been under its present management, 318,060 JOURNALS have been actually mailed to the physicians of the State, at a net cost of \$303.95, including each and every cost of publication.

We feel that this is a cause for congratulation not only on account of the educational

and organization value of the JOURNAL to our members, but because it has demonstrated that a medical journal may be conducted honestly, and, at the same time profitably. From year to year, we have said that this remarkable showing cannot be continued without an even more active support of our advertisers in the future by the profession of the State. We are so confident, from careful investigation, that there is not a single firm among our advertisers which is not worthy of your patronage; that the Council stands ready to make good any money lost, occasioned by a mis-statement in any of our advertisements. We believe that this statement has never before been made by any medical or other publication. We accept no dishonest advertisements for our JOURNAL; and, after five years' experience, we feel confident that our methods have been perfected to the point where we will not be deceived, and we are willing to relieve our members of all risk in dealing with our advertisers for their advertised products.

If all of our membership will adopt a plan already in force in many societies of not only preferring those manufacturers and sanitarians which make their announcements through our own JOURNAL, but of calling the attention of all those who seek the patronage of the profession to that fact, we will have no difficulty in continuing to furnish our members with a satisfactory organ.

If we could receive help from two or three active members in each county, we could in a few years have sufficient reserve funds to undertake the protection of aged physicians, the establishment of an Old Doctors' Home, and such other things as have been the dreams of our profession.

The report of our Business Manager shows that 25 per cent. of the total membership of the Association have contributed to the columns of the JOURNAL through original or special articles, scientific editorials, the proceedings of our respective county societies or in some way. This condition is without parallel in any other state and shows that our JOURNAL is really representative of our two thousand members who not only own, but actually edit it. Since 1906, no article or other communication on any subject from one of our own members has been refused publication. During the coming year, our expense will naturally and necessarily increase if we continue this policy. We will appreciate such explicit directions as to the future conduct of the JOURNAL as your honorable body shall see fit to give.

At the meeting of the Council in Paducah during the 1911 session, the contract for printing the JOURNAL was let to the Times-Journal Publishing Company, Incorporated,

Bowling Green, for twelve months, on the following contract:

This contract made and entered into by the Kentucky State Medical Association, incorporated, party of the first part, and the Times-Journal Publishing Company, incorporated, party of the second part, witnesseth:

That the party of the second part hereby agrees to publish for party of the first part the KENTUCKY MEDICAL JOURNAL on the paper of the quality furnished, the body of the JOURNAL to be printed in 10 point DeVinne type, the discussions and similar matter to be in 8-point DeVinne type, not more than one-third of each issue to be advertising matter, set by hand, each Jefferson County issue to consist of 48 pages, 2,500 copies in consideration of the sum of \$160.00 per month; and each regular issue to consist of sixty-four pages, 2,500 copies, in consideration of the sum of \$200.00 per month, or eighty pages, 2,500 copies, in consideration of the sum of \$250.00, or of ninety-six pages, 2,500 copies, in consideration of \$350.00. It is further agreed that the party of the second part agrees that the JOURNAL shall be mailed to the members before midnight on the 26th day of the month preceding issue, subject to a penalty of ten dollars (\$10) for each twenty-four hours, or fraction thereof, delay.

It is further agreed that one-third of the copy of the Jefferson County number shall be in the hands of the printer on the 26th day of the month preceding issue, one-third on the 1st day of the month of issue, and the remainder one-third on the 5th day of the month of issue; the advertising forms close on the 1st day of the month of issue.

It is further agreed that one-third of the copy for the regular number shall be in the hands of the printer on the 5th day of the month before issue, one-third on the 10th and one-third on the 16th day of the month before issue.

It is further agreed that the copy shall be correct, and the party of the second part agrees to pay twenty-five (25) cents for each typographical error not contained in the copy, galley proofs and page proofs are to be submitted to the editor, and it is agreed that it shall be read and returned within twenty-four hours after its submission.

It is further agreed that the second party shall furnish envelopes, the return card to be printed on same at the rate of \$1.00 per thousand, which shall be addressed by the first party, and the JOURNAL shall be put in envelopes and mailed by the second party.

It is further agreed that this contract is to be continued for twelve (12) months, beginning this, December 1st, 1911.

Witnesseth our hands and seals this day and date above named.

KENTUCKY STATE MEDICAL ASSOCIATION (Inc.)

By E. RAY, Chairman Council.

TIMES-JOURNAL PUBLISHING COMPANY, (Inc.)

By W. J. DENHARDT, Manager.

It will be noted that this year, for the first time we have not been able to force our printers to pay for delays in publishing the JOURNAL. This has been because the copy from the Jefferson County number has been uniformly late during the year. Of course, we realize the difficulty of getting the copy always in on time, but we desire to suggest that, as long as it is worth some \$500.00 a year to the Association to do this, you take such steps as will be necessary to accomplish the purpose.

The contract with the Jefferson County Medical Society is as follows:

This contract made and entered into this first day of April, 1909, between the Jefferson County Medical Society, party of the first part, and the KENTUCKY STATE MEDICAL ASSOCIATION, incorporated, party of the second part, Witnesseth:

That in consideration of the securing advertising contracts in Jefferson County, Kentucky, by the party of the first part for the JOURNAL, published by the party of the second part, which shall provide for it a net income from said advertisements of \$2,400 per annum, the party of the second part agrees to publish on or about the fifteenth day of each month an edition of the said Journal which shall be known as the JEFFERSON COUNTY NUMBER, each issue to consist of forty-eight pages of reading matter and advertisements to be published and distributed under the following conditions, to-wit:

1. The Jefferson County Number of the KENTUCKY MEDICAL JOURNAL shall be published of the same style, size of pages, and shall be mailed to the same mailing list and shall be a part of the regular issue of the KENTUCKY MEDICAL JOURNAL.

2. Its editor and business manager shall be the same as for the KENTUCKY MEDICAL JOURNAL, but assistant editors and associate editors shall be nominated for it by the Jefferson County Medical Society from its membership, to the Council of the State Association.

3. The editorials for it shall be written by its own associate editors and the scientific editorials, by its own assistant editors, provided that editorial matter in regard to the public policy of the State Association shall be subject to the approval of the Council, as provided by the constitution.

4. Essays and discussions will be published in the order in which they are received from the secretary of the Jefferson County Medical Society.

5. The assistant and associate editors herein provided shall be assigned by the secretary of the Jefferson County Society to editorial work for the various issues at least three months in advance, and in case any such editor shall fail to send in his copy to the editor of the JOURNAL two successive times, the editor shall certify the fact to the Jefferson County Society, and another member shall be nominated to fill the vacancy thereby occasioned.

6. Advertisements of medical preparations shall be limited to U. S. P. and N. F. preparations, and to those approved by the Council on Pharmacy and Chemistry of the American Medical Association; of food preparations, to those which comply with the United States and Kentucky Pure Food and Drug Laws; and of sanitariums and business houses to those approved by the Executive Committee of the Jefferson County Medical Society; all advertisements being subject to the approval of the Council.

9. The business manager of the JOURNAL shall try as far as possible to secure advertisements for the Jefferson County Number, and the net income from such advertisements shall be credited in the consideration herein.

10. The Jefferson County Society may secure advertisements outside of Jefferson County, with the consent of the editor, the net proceeds to be credited two-thirds to the Jefferson County issue and one-third to the ordinary issue. The consent of the editor is required only to prevent competition between the two issues, and he shall in every way assist the Jefferson County Society in securing advertisements when they have a reasonable prospect of securing them.

11. Subscriptions to the KENTUCKY MEDICAL JOURNAL shall be at the rate of \$2.00 a year, and two-fifths of the income from subscribers secured by the Jefferson County Society shall be credited on the consideration herein, provided that such subscribers are not eligible to membership in the Kentucky State Medical Association, in which latter case, the whole subscription shall go to the general fund of the Association.

12. In case the total net income of the Jefferson County Number shall exceed \$2,400 per annum, sixty-six and two-thirds per cent. of the excess shall be paid to the treasurer of the Jefferson County Society, and thirty-three and one-third per cent. to the Kentucky State Medical Association.

13. The consideration herein is based on a forty-eight page issue, with a circulation not to exceed 3,000. For each additional 500 copies required the consideration will be increased \$25, and for each additional sixteen pages of any issue of 3,000 or less, it will be increased \$50.

14. While it is agreed that the Jefferson County Number is to be representative of and under control of the Jefferson County Society in so far as it does not conflict with the Constitution of the State Association, it is understood that the editor and the secretary of the Jefferson County Society may arrange for such interchange of articles between the two issues as will promote harmonious relations and united action between the parties heretofore at all times.

We have had the report of the Secretary and Treasurer audited by the Potter-Mattock Trust Company of Bowling Green, and submit their report herewith:

It will be noted again this year, as for the past five years, that each item of expense and income are set forth so plainly, that not only every county society and its Delegates, but every member of the Association, may know the details of our business affairs, which are of interest and importance to every one of us. This Council and your Officers will continue to work with the most careful attention to its every detail. It is to be remembered at all times that we are entirely under the control and direction of the members of the county societies through their duly elected delegates. If anything is being done wrong, if there is any way to improve it, if newer methods or better management will more nearly accomplish the purpose of this Association, we beg that it be submitted to the House of Delegates for its action at this session so that in the future conduct of the affairs of this Association we may best promote the purpose set forth in its Constitution and charter "to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of diseases, and in prolonging and adding comfort of life.

Respectfully submitted,

ERNEST RAU, Chairman.

AUDITOR'S REPORT.

Bowling Green, Ky., Sept. 26, 1912.

To the Council, Kentucky State Medical Association:—

GENTLEMEN:

We have the honor to submit herewith our report of the audit of the books and accounts of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. W. B. McClure, beginning September 1, 1911, and ending September 1, 1912, viz:

ASSETS.

Cash balance in Second National Bank, Lexington, Kentucky, to the credit of W. B. McClure, Treasurer of Kentucky State Medical Association, as per pass book submitted	\$4,953 36
Office furniture, stationery and supplies, as per Exhibit "D"	1,216 96
Total Assets	\$6,170 32

Every item of disbursements was carefully scrutinized, compared and checked with the entries in the various ledger accounts. Each voucher contained an itemized statement of the account and was properly receipted. The cancelled vouchers in hands of the Treasurer agreed exactly with Secretary's stubs.

All amounts on Secretary's Cash Book from the various sources were found to agree with Treasurer's statement.

The exhibits herewith submitted furnish you a full statement in aggregate and detail the entire business of the year.

EXHIBIT "A"—RECEIPTS AND DISBURSEMENTS OF CASH OF YOUR ASSOCIATION, which includes Secretary and Treasurer, from September 1, 1911, to September 1, 1912.

EXHIBIT "B"—DETAILED STATEMENT OF DISBURSEMENTS OF W. B. MCCLURE, TREASURER, KENTUCKY STATE MEDICAL ASSOCIATION, each made on a voucher check, signed by J. G. Carpenter, President, A. T. McCormack, Secretary, and himself, from September 1, 1911, to September 1, 1912.

EXHIBIT "C"—DETAILED LIST RECEIPTS COUNTY SOCIETIES, from September 1, 1911, to September 1, 1912.

EXHIBIT "D"—INVOICE OF PROPERTY OF ASSOCIATION, September 1, 1912.

EXHIBIT "G"—SECRETARY'S MONTHLY BALANCE SHEET, agreeing with the books.

EXHIBIT "H"—COLLECTIONS BY EDITOR ON ACCOUNT OF KENTUCKY STATE MEDICAL JOURNAL, corresponding with checks for even amounts filed herewith.

EXHIBIT "I"—COLLECTIONS BY SECRETARY ON ACCOUNT OF KENTUCKY STATE MEDICAL ASSOCIATION, corresponding with checks for even amounts filed herewith.

We think it but right to state that in this audit, we failed to find a single omission, discrepancy or error in the books and records of either your Treasurer or Secretary.

Respectfully submitted,
POTTER-MATLOCK TRUST CO.

By B. P. EUBANK,
Public Accountant.

EXHIBIT "A."

Receipts and disbursements of cash, Kentucky State Medical Association, Bowling Green, Kentucky, September 1, 1911 to September 1, 1912:

RECEIPTS.

Dues of county societies and subscriptions to JOURNAL	\$5,092 00
Payments on State Board of Health note	1,070 62
	\$6,162 62
Income of JOURNAL, advertising, etc.	5,910 56
	5,910 56
	\$12,073 18
Balance September 1, 1911, in bank, credit of Treasurer	5,404 35
Total Receipts, including balance....	\$17,481 53

DISBURSEMENTS.

Printing JOURNALS, twelve months	\$5,368 75
Salary of Secretary	1,450 00
Expenses annual meeting, Paducah, 1911	945 29
Salary of stenographer	720 00
Advertising commissions for JOURNAL	567 74
Salary of Business Manager, Registrar and Jefferson County	600 00
JOURNAL Sundries	245 42
Medico-Legal Committee	819 15
Expenses of officers, Councilors and Committees	504 98
Printing other than JOURNAL	265 20
Sundries, Secretary's Office	189 19
Stamps and envelopes, Secretary	382 68
Office Expenses and Bond, Treasurer	12 20
Postage on JOURNAL	202 09
Express, Freight and Hauling, JOURNAL	2 60
Express, Freight and Hauling, Secretary	6 50
Salary, Microscopist (By vote of council)	75 00
Miscellaneous	231 98
Total Disbursements	\$12,528 17
Balance September 1, 1912	4,953 36
Total	\$17,481 53

EXHIBIT "B."

Detailed Statement of Disbursements of W. B. McClure, Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by J. G. Carpenter, President, A. T. McCormack, Secretary, and himself, from September 1, 1911 to September 1, 1912.

1911.			
October 1.	VOUCHER CHECK No. 121		\$106 30
	DR. A. T. McCORMACK, Bowling Green, Ky.		
	To postage for July 15th JOURNAL	\$ 5 75	
	To express	55	
	To salary for September	100 00	
October 1.	VOUCHER CHECK No. 122		\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.		
	To salary for September.		
October 1.	VOUCHER CHECK No. 123		\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.		
	To salary for September.		
October 1.	VOUCHER CHECK No. 124		\$ 29 70
	AMERICAN MEDICAL ASSOCIATION, Chicago, Ill.		
	To 3000 photos of Dr. Carpenter	\$14 85	
	To 2500 photos of Dr. Bailey	14 85	
October 1.	VOUCHER CHECK No. 125		\$ 2 40
	THE GLOBE-WERNICKE COMPANY, Cincinnati, Ohio.		
	To 1 M No. 31 Cards Dup.		
October 1.	VOUCHER CHECK No. 126		\$ 34 89
	MESSRS. W. AND J. DENBARDT, Bowling Green, Ky.		
	To com. on \$93 80 at 25 per cent. (old and new accounts)	\$23 45	
	To com. on \$76 28 at 15 per cent. (renewals)	11 44	
October 1.	VOUCHER CHECK No. 127		\$ 60 00
	CLYDE W. HOWELL, Bowling Green, Ky.		
	To salary for September.		
October 1.	VOUCHER CHECK No. 128		\$432 10
	THE TIMES JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.		
	To 2500 Jefferson County JOURNALS, 48-page	\$160 00	
	To 2500 envelopes	2 50	
	To printing 500 Letter Heads	2 75	
	To 23 changes in Jefferson County issue	4 60	
	To Express on cuts	25	
	To 2500 August 1st JOURNALS, 80-page	250 00	
	To 2500 envelopes	2 50	
	To 25 changes	2 50	
	To 500 membership cards	2 50	
November 1.	VOUCHER CHECK No. 129		\$256 25
	DR. A. T. McCORMACK, Bowling Green, Ky.		
	To postage August 1st JOURNAL	\$ 10 32	
	To postage August 15th JOURNAL	5 78	
	To postage September 1st JOURNAL	9 65	
	To postage September 15th JOURNAL	5 55	
	To crating box, Paducah	75	
	To hotel bill, self and Dr. South, Paducah	10 75	
	To Expense at Paducah meeting	63 45	
	To Balance on salary for September	25 00	
	To salary for October	125 00	
November 1.	VOUCHER CHECK No. 130		\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.		
	To salary for October.		
November 1.	VOUCHER CHECK No. 131		\$ 25 00
	DR. E. SIMPSON, Louisville, Ky.		
	To salary for October.		
November 1.	VOUCHER CHECK No. 132		\$ 7 50
	DR. W. W. TARVIN, Covington, Ky.		
	To overpayment of dues by Dr. Stine, Secretary Campbell-Kenton Society.		
November 1.	VOUCHER CHECK No. 133		\$ 100 00
	MR. WILLIAM B. SOE, Calhoun, Ky.		
	To services for Medico-Legal Committee.		
November 1.	VOUCHER CHECK No. 134		\$ 95 76
	S. W. BASSETT COMPANY, Providence, Rhode Island.		
	To 504 gold-plated bangles with "Paducah 1911" bars attached.		
November 1.	VOUCHER CHECK No. 135		\$ 25 00
	POTTER-MATLOCK BANK & TRUST COMPANY, Bowling Green, Ky.		
	To auditing books and accounts of Secretary, Dr. A. T. McCormack, and treasurer, Dr. W. B. McClure, and reporting same.		
November 1.	VOUCHER CHECK No. 136		\$ 40 00
	DR. JNO. J. MOREN, Louisville, Ky.		
	To services for 3 years as Chairman of the Medico-Legal Committee.		
November 1.	VOUCHER CHECK No. 137		\$ 627 05
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.		
	To 1000 sheets letter paper	\$ 2 25	
	To 500 applications for space, Paducah	3 25	
	To 500 commercial exhibits	2 75	
	To 500 plans of exhibit building, Paducah	1 50	
	To 800 letter heads	2 00	
	To 2,500 circular letters (2 colors)	11 00	
	To 225 programs and folding	1 75	
	To 2,500 20-page programs Paducah meeting	23 00	
	To 2,500 Jefferson County JOURNALS 48 page, Aug. 15	150 00	
	Ry 14 type errors		3 50
	To printing 2,500 envs \$2.50 Aug. 15 number and 15 changes \$3.00	5 50	
	To difference setting tabular matter 6 pt. 55,000 ems	22 00	
	To 2,500 80-page regular number, Sept. 1st	250 00	
	Ry 51 type errors		12 75
	To printing 2,500 envs, Sept. 1st JOURNAL	2 50	
	To printing 2,300 envs for Sept. 15 JOURNAL	2 30	
	To 2,500 48-page Jefferson County No. Sept. 15	150 00	
	Ry 7 type errors		1 75
	To putting in inserts Sept 1st JOURNAL	2 25	
	To making badges for officers at Paducah meeting	3 00	

November 1.	VOUCHER CHECK No. 138	MISS MAYME SULLIVAN, Bowling Green, Ky.	\$ 55 85
		To hotel bill for Misses Sullivan, Howell and M ^{rs} . Denhardt	\$ 21 65
		To baggage and incidentals	9 20
		To Honorarium	25 00
November 1.	VOUCHER CHECK No. 139	DR. J. G. CARPENTER, Stanford, Ky.	\$ 186 35
		To expenses as President-Elect for year, 1910-11. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 140	DR. W. W. RICHMOND, Clinton, Ky.	\$ 38 50
		To services as Councilor First District. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 141	DR. ERNEST RAU, Bowling Green, Ky.	\$ 4 50
		To services as Councilor Third District. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 142	DR. R. C. McCLHOD, Lebanon, Ky.	\$ 10 50
		To services as Councilor Sixth District. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 143	DR. H. M. GRIFFITH, Owensboro, Ky.	\$ 11 00
		To services as Councilor Second District. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 144	DR. J. S. LOCK, Harboursville, Ky.	\$ 47 85
		To services as Councilor Eleventh District. Approved by the Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 145	DR. J. E. WELLS, Cynthiana, Ky.	\$ 11 00
		To expenses as President for year 1910-11. Approved by Council and ordered paid by House of Delegates.	
November 1.	VOUCHER CHECK No. 146	CLAUDE W. HOWELL, Bowling Green, Ky.	\$ 60 00
		To salary for October.	
December 1.	VOUCHER CHECK No. 147	DR. I. A. SHIRLEY, Winchester, Ky.	\$ 29 70
		To services as Councilor Tenth District for year, 1910-11. Approved by the Council and ordered paid by House of Delegates.	
December 1.	VOUCHER CHECK No. 148	DR. E. F. HORINE, Louisville, Ky.	\$ 15 00
		To expenses as Lantern Assistant, Paducah Session.	
December 1.	VOUCHER CHECK No. 149	WOMAN'S CLUB, Paducah, Ky.	\$ 100 00
		To use of Woman's Club Building for State Medical Meeting (4 days).	
December 1.	VOUCHER CHECK No. 150	SEXTON SIGN WORKS, Paducah, Ky.	\$ 7 50
		To 2 cloth and card signs for Paducah Session.	
December 1.	VOUCHER CHECK No. 151	MR. A. L. LANSITER, Architect, Paducah, Ky.	\$ 3 00
		To drawings of Woman's Club Building for Kentucky State Medical Association.	
December 1.	VOUCHER CHECK No. 152	MR. J. W. LOCKWOOD, Paducah, Ky.	\$ 3 05
		To lumber and carpenter work at Woman's Club Rooms, Paducah Session.	
December 1.	VOUCHER CHECK No. 153	MESSRS. KATTERJOHN & DALBY, Paducah, Ky.	\$ 4 35
		To wiring and installing temporary lights in Woman's Club Rooms for exhibitors at Paducah Meeting.	
December 1.	VOUCHER CHECK No. 154	AMERICAN EXPRESS COMPANY, Paducah, Ky.	\$ 22 50
		To express on 9 boxes pathological exhibits from New Orleans to Paducah for Dr. Souchon. Paducah Session.	
December 1.	VOUCHER CHECK No. 155	SOUTHERN EXPRESS COMPANY, Paducah, Ky.	\$ 29 31
		To express on 9 boxes pathologic exhibits from Paducah to New Orleans for Dr. Souchon. Paducah Session.	
December 1.	VOUCHER CHECK No. 156	THE KENTUCKY THEATRE, Paducah, Ky.	\$ 75 00
		To rent of theatre for Drs. South and Wathen's lecture.	
December 1.	VOUCHER CHECK No. 157	MESSRS. JOHNSON, WICKLIFFE & JOHNSON, Greenville, Ky.	\$ 100 00
		To services rendered Medico-Legal Committee.	
December 1.	VOUCHER CHECK No. 158	DR. A. T. McCOMACK, Bowling Green, Ky.	\$ 262 89
		To 2,000 No. 9 stamped envelopes	\$ 42 68
		To 4,000 No. 5 stamped envelopes	84 96
		To postage for October 1st JOURNAL	9 25
		To salary for November	125 00
December 1.	VOUCHER CHECK No. 159	DR. L. H. SOUTH, Bowling Green, Ky.	\$ 25 00
		To salary for November.	
December 1.	VOUCHER CHECK No. 160	DR. V. E. SIMPSON, Louisville, Ky.	\$ 25 00
		To salary for November.	
December 1.	VOUCHER CHECK No. 161	DR. LEON K. BALDAUF, Louisville, Ky.	\$ 43 51
		To express charges on scientific exhibit at Paducah	\$ 19 26
		To one-half personal expenses at Paducah session	24 25
December 1.	VOUCHER CHECK No. 162	MEDICAL DEPARTMENT TULANE UNIVERSITY, New Orleans, La.	\$ 14 86
		To 10 gals alcohol at \$60	\$ 6 00
		To 1 bale excelsior	86
		To 1 museum jar (broken in transit)	8 00

December 1.	VOUCHER CHECK NO. 163	WESTERN UNION TELEGRAPH COMPANY, Paducah, Ky. To telegrams sent to Drs. Bowen and Shirley.	\$ 94
December 1.	VOUCHER CHECK NO. 164	CLYDE W. HOWELL, Bowling Green, Ky. To salary for November.	\$ 60 00
December 1.	VOUCHER CHECK NO. 165	MESSRS. RIDDLE & WUNDERLIE COMPANY, Chicago, Ill. To Pac Simile for Dr. Carpenter, President-Elect.	\$ 4 16
December 1.	VOUCHER CHECK NO. 166	MESSRS. W. J. AND J. G. DENIHARDT, Bowling Green, Ky. To 25 per cent. on \$225 81 (old and new accounts) To 15 per cent. on \$118 36 (renewals)	\$ 78 70 \$ 56 45 22 25
December 1.	VOUCHER CHECK NO. 167	THE TIMES JOURNAL PUBLISHING COMPANY, Bowling Green, Ky. To 1,000 letter heads for President To 1,000 envs. for President To 500 letter heads and envelopes for Vice-President To 5,000 letter heads and envelopes for Secretary To 500 letter heads and 500 envelopes for Vice-President To 500 letter heads and 500 envelopes for Vice-President To 500 letter heads and 500 envelopes for President-Elect To 250 extra letter heads for President-Elect To 2,300 80-page Regular issue, October 1st By 23 type errors To putting in insert To printing envelopes To 12 changes in copy To 2,500 copies Nov. 1st issue 80-page By 21 type errors To 2,500 envelopes To 15 changes To express on letter heads To 2,300 copies 48-page October 15th issue By 17 type errors To 21 changes from original copy	\$ 683 30 \$ 4 00 2 50 4 00 15 00 4 00 4 00 4 00 1 25 240 00 2 30 2 30 2 40 250 00 2 50 3 00 3 10 150 00 4 25 4 20
January 1.	VOUCHER CHECK NO. 169	DR. A. T. McCORMACK, Bowling Green, Ky. To telegram To postage November 1st JOURNAL To postage November 15th JOURNAL To postage December 1st JOURNAL To salary for December	\$ 149 92 \$ 40 8 00 7 10 8 62 125 00
January 1.	VOUCHER CHECK NO. 170	DR. L. H. SOUTH, Bowling Green, Ky. To salary for December.	\$ 25 00
January 1.	VOUCHER CHECK NO. 171	DR. V. E. SIMPSON, Louisville, Ky. To salary for December.	\$ 25 00
January 1.	VOUCHER CHECK NO. 172	MR. WILLIAM WHITFORD, Chicago, Ill. To first payment on bill rendered Dec. 1st, as follows: for services at Paducah meeting: To reporting 4 days and 2 evenings To transcribing minutes House of Delegates and General meeting To railroad expenses To transcribing scientific discussions To transcribing remarks of Drs. Carpenter, Wathen, Willmoth and Pope To transcribing proceedings County Secretaries Association	\$ 107 21 \$ 50 00 109 60 19 66 101 80 16 25 10 50
January 1.	VOUCHER CHECK NO. 173	DR. W. B. McCURE, Lexington, Ky. To stamps To express	\$ 5 65 \$ 5 00 65
January 1.	VOUCHER CHECK NO. 174	McCLURE & COMPANY, Lexington, Ky. To supplies for Dr. McClure.	\$ 6 55
January 1.	VOUCHER CHECK NO. 175	MESSRS. TINSLEY-MAYER ENGRAVING COMPANY, Louisville, Ky. To half-tones for Dr. John K. Wathen's oration at Paducah.	\$ 26 00
January 1.	VOUCHER CHECK NO. 176	THE TIMES JOURNAL PUBLISHING COMPANY, Bowling Green, Ky. To telephone message To 1,000 bill heads To 2,300 48-page Jeff. County Nov. 15th JOURNALS To 2,500 envelopes To 1,000 ems. not used To 14 changes from copy To 2,400 80-page regular number, Dec. 1st JOURNAL By 61 type errors To 2,400 envelopes To 17 changes To 20,874 ems. set up twice To 2,300 48-page Dec. 15th Jefferson County JOURNAL By 183 type errors To 2,300 envelopes To 1,200 ems. killed To 16 changes from copy	\$ 526 37 \$ 55 2 50 150 00 2 30 1 60 2 80 245 00 13 25 2 40 3 40 8 34 150 00 38 25 2 30 48 3 20
January 1.	VOUCHER CHECK NO. 177	CLYDE W. HOWELL, Bowling Green, Ky. To salary for December.	\$ 60 00
January 1.	VOUCHER CHECK NO. 95	MISS MAYME SULLIVAN, Bowling Green, Ky. To commission on Oxford Retreat ad \$55 28 at 15 per cent. To commission on Kenilworth San. ad \$81 30 at 15 per cent. To commission on Kenilworth San. ad \$65 04 at 25 per cent. To commission on Oconomowoc ad \$35 00 at 25 per cent. To commission on Oconomowoc ad \$26 25 at 15 per cent. To commission on Waukesha Springs ad \$48 11 at 25 per cent. To commission on Waukesha Springs ad \$13 11 at 15 per cent.	\$ 64 43 \$ 8 29 12 19 16 26 8 75 3 94 12 03 1 97

February 1.	VOUCHER CHECK No. 174 DR. A. T. McCORMACK, Bowling Green, Ky.	\$ 154 94
	To postage December 15th JOURNAL	5 98
	To postage January 1st JOURNAL	8 96
	To postal cards	5 00
	To double postal cards	10 00
	To salary for January	125 00
February 1.	VOUCHER CHECK No. 179 DR. L. H. SOUTII, Bowling Green, Ky.	\$ 25 00
	To salary for January.	
February 1.	VOUCHER CHECK No. 180 DR. V. E. SIMPSON, Louisville, Ky.	\$ 25 00
	To salary for January.	
February 1.	VOUCHER CHECK No. 181 MR. WILLIAM WHITFORD, Chicago, Ill.	\$ 100 00
	To second payment on bill rendered Dec. 1st, for \$307 21 for services as stenographer at Paducah meeting.	
February 1.	VOUCHER CHECK No. 182 MR. C. A. MUNKLE, Bowling Green, Ky.	\$ 4 00
	To cash book.	
February 1.	VOUCHER CHECK No. 183 MESSRS. W. J. AND J. G. DENHARDT, Bowling Green, Ky.	\$ 51 31
	To 25 per cent commission on \$82 74 (new accounts)	20 69
	To 25 per cent. commission on \$30 00 (old accounts)	7 50
	To 15 per cent. commission on \$154 10 (renewals)	23 12
February 1.	VOUCHER CHECK No. 184 THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	\$ 489 40
	To 2,400 January 1, 1912, 80-page Regular JOURNALS	\$245 00
	To 2,400 envelopes for January 1 JOURNALS	2 40
	To 43 changes from copy	8 60
	To difference in setting index in 6 pt type 20,000 ems	8 00
	To 500 contracts for Regular JOURNAL	1 50
	To 500 contracts for Jefferson County issue	1 50
	By 101 type errors in January 1st JOURNAL	25 25
	To 2,400 80-page February 1st JOURNALS	245 00
	To 2,400 envelopes February 1st JOURNAL	2 40
	To 15 changes from copy	3 00
	By 11 type errors in February 1st issue	2 75
February 1.	VOUCHER CHECK No. 185 CLYDE W. HOWELL, Bowling Green, Ky.	\$ 60 00
	To salary for January.	
February 1.	VOUCHER CHECK No. 186 MESSRS. HINES & NORMAN, Louisville, Ky.	\$ 300 00
	To services for Medical Defense Branch for year, 1911.	
March 1.	VOUCHER CHECK No. 187 THE NEWS PUBLISHING COMPANY, Bowling Green, Ky.	\$ 10 25
	To 2,500 circular letters	8 75
	To 400 extra circular letters	1 50
March 1.	VOUCHER CHECK No. 188 COMMERCIAL JOB PRINTING COMPANY, Bowling Green, Ky.	\$ 25 00
	To printing 6,000 post cards	7 00
	To setting typewritten letter	3 00
	To 1,500 copies above paper furnished by us	3 00
	To 3,000 copies above—press work	3 00
	To 1,000 circular letters setting same	3 00
	To press work on above	2 00
	To paper furnished for above	4 00
March 1.	VOUCHER CHECK No. 189 DR. A. T. McCORMACK, Bowling Green, Ky.	\$ 355 74
	To postage February 1st JOURNAL	8 85
	To postage January 15th JOURNAL	6 00
	To telegrams	5 05
	To wrappers	1 89
	To freight and drayage on safe	24 45
	To 6,000 2-cent envelopes	126 00
	To 3,500 postal cards	35 00
	To 1,350 postal cards	13 50
	To salary for February	125 00
March 1.	VOUCHER CHECK No. 190 DR. L. H. SOUTII, Bowling Green, Ky.	\$ 25 00
	Salary for February.	
March 1.	VOUCHER CHECK No. 191 DR. V. E. SIMPSON, Louisville, Ky.	\$ 25 00
	To salary for February.	
March 1.	VOUCHER CHECK No. 192 MR. WILLIAM WHITFORD, Chicago, Ill.	\$ 100 00
	To last payment on bill rendered Dec. 21, 1911, for \$307 21 (services at Paducah meeting as stenographer).	
March 1.	VOUCHER CHECK No. 193 THE GLOBE-WERNICK COMPANY, Cincinnati, Ohio.	\$ 130 00
	To 1 Globe Cabinet Safe with fixtures.	
March 1.	VOUCHER CHECK No. 194 DR. J. A. GOODSON, Dixon, Ky.	\$ 24 40
	To expenses as member of Legislative Committee at Frankfort.	
March 1.	VOUCHER CHECK No. 195 THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	\$ 322 70
	To 2,500 48-page January 15th JOURNALS	\$160 00
	By 6 typographical errors	1 50
	To 8 changes	1 60
	To 2,500 envelopes	2 50
	To 2,300 48-page February 15th JOURNALS	150 00
	By 6 typographical errors	1 50
	To 22 changes	4 40
	To 2,300 envelopes	2 30
	To 12,200 ems killed	4 90
March 1.	VOUCHER CHECK No. 196 CLYDE W. HOWELL, Bowling Green, Ky.	\$ 60 00
	To salary for February.	

March 1.	VOUCHER CHECK No. 197	\$ 21 86
	DR. M. M. MOSS, Franklin, Ky.	
	To expenses as member Legislative Committee State Medical Association at Frankfort.	
April 1.	VOUCHER CHECK No. 199	\$ 187 20
	DR. A. T. McCORMACK, Bowling Green, Ky.	
	To express	\$ 50
	To 1,000 double postals	20 00
	To postage on February 15th JOURNAL	6 47
	To postage on March 1st JOURNAL	8 80
	To salary for March	125 00
	To postage on sample copies sent to non-members	6 43
April 1.	VOUCHER CHECK No. 200	\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.	
	To salary for March	
April 1.	VOUCHER CHECK No. 201	\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.	
	To salary for March	
April 1.	VOUCHER CHECK No. 202	\$ 6 84
	DR. D. M. GRIFFITH, Owensboro, Ky.	
	To balance on expenses for self and Dr. Ordorn to Frankfort. Members of the Legislative Committee.	
April 1.	VOUCHER CHECK No. 203	\$ 646 75
	THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	
	To 1,000 letter heads and envelopes for Dr. J. W. Kincaid	\$ 6 50
	To express on same	1 00
	To 2,400 copies March 1st JOURNAL, 80-page	245 00
	By 47 type errors	11 75
	To 2,400 envelopes	2 40
	To 17 changes	3 40
	To 2,400 March 15th JOURNAL, 48-page	155 00
	By 17 type errors	4 25
	To 2,400 envelopes	2 40
	To 24 changes	4 20
	To 2,400 copies April 1st JOURNAL, 80-page	245 00
	By 43 type errors	10 75
	To 2,400 envelopes	2 40
	To 11,000 ems killed	4 40
	To 9 changes	1 80
April 1.	VOUCHER CHECK No. 204	\$ 60 00
	CLYDE W. HOWELL, Bowling Green, Ky.	
	To salary for March	
April 1.	VOUCHER CHECK No. 205	\$ 4 12
	DR. M. W. STEELE, Corbin, Ky.	
	To telegrams sent on account of H. B. 74. Done at request of District Councilor.	
May 1.	VOUCHER CHECK No. 206	\$ 231 84
	DR. A. T. McCORMACK, Bowling Green, Ky.	
	To 2,000 stamped envelopes	\$ 84 96
	To postage on March 15th JOURNAL	6 45
	To postage on April 1st JOURNAL	9 50
	To postage on April 15th JOURNAL	5 53
	To express on dictionary	40
	To salary for April	125 00
May 1.	VOUCHER CHECK No. 207	\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.	
	To salary for April	
May 1.	VOUCHER CHECK No. 208	\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.	
	To salary for April	
May 1.	VOUCHER CHECK No. 209	\$ 2 00
	CAPITOL HOTEL, Frankfort, Ky.	
	To expenses Dr. Hancock 3-4 day on January 23rd, 1912.	
May 1.	VOUCHER CHECK No. 210	\$ 11 00
	DR. L. P. TRABUE, Secretary Todd County Medical Society, Elkton.	
	To overpayment in dues sent on April 23rd.	
May 1.	VOUCHER CHECK No. 211	\$ 16 40
	ADDRESSOGRAPH COMPANY, Chicago, Ill.	
	To addressograph plates ordered from April 8, 1911, to March 20, 1912.	
May 1.	VOUCHER CHECK No. 212	\$ 57 77
	MESSRS. W. J. AND J. G. DENIHARDT, Bowling Green, Ky.	
	To 25 per cent. commission on \$113 44 (new advertisements)	\$ 28 36
	To 15 per cent. commission on \$198 66 (renewals)	29 41
May 1.	VOUCHER CHECK No. 213	\$ 416 30
	THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	
	To 5,000 letter heads for Secretary	\$ 15 00
	To 2,300 48-page April 15th issue	150 00
	To 15 changes in proof	3 00
	By 17 type errors	4 25
	To 2,500 May 1st regular issue, 80-page	250 00
	By 7 errors	1 75
	To 2,500 envelopes	2 50
	To 9 changes for copy	1 80
May 1.	VOUCHER CHECK No. 214	\$ 60 00
	CLYDE W. HOWELL, Bowling Green, Ky.	
	To salary for April	
June 1.	VOUCHER CHECK No. 215	\$ 12 05
	MESSRS. ROBBINS & THOMAS, Mayfield, Ky.	
	To copy of Petition in Harper vs. Bogard case	\$ 1 00
	To defendant's cost	1 05
	To deposit for future costs	10 00
June 1.	VOUCHER CHECK No. 216	\$ 150 46
	DR. A. T. McCORMACK, Bowling Green, Ky.	
	To postal cards	\$ 10 00
	To postage for May 1st JOURNAL	9 41
	To postage for May 15th JOURNAL	6 05
	To salary for May	125 00

June 1.	VOUCHER CHECK No. 217	\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.	
	To salary for May.	
June 1.	VOUCHER CHECK No. 218	\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.	
	To salary for May.	
June 1.	VOUCHER CHECK No. 219	\$ 5 00
	AMERICAN MEDICAL ASSOCIATION, Chicago, Ill.	
	To subscription to A. M. A. Journal for Dr. W. H. Harris, Scottsville.	
June 1.	VOUCHER CHECK No. 220	\$ 1 50
	DR. W. F. ASHBURN, Turner's Station, Ky.	
	To money refunded for ad in JOURNAL.	
June 1.	VOUCHER CHECK No. 221	\$ 416 10
	THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	
	To 2,500 48-page May 15th Jefferson County number	\$160 00
	By 10 type errors	2 50
	To 2,500 envelopes	2 50
	To 2,500 80-page June 1st JOURNALS	250 00
	To 2,500 envelopes	2 50
	By 10 type errors	2 50
	To 14 changes in Jefferson County number.	2 80
	To 9 changes in Regular number	1 80
	To 300 reprints Railroad ad (Pennsylvania)	1 50
June 1.	VOUCHER CHECK No. 222	\$ 60 00
	CLYDE W. HOWELL, Bowling Green, Ky.	
	To salary for May.	
June 1.	VOUCHER CHECK No. 223	\$ 132 57
	MESSERS. W. J. AND J. G. DENHARDT, Bowling Green, Ky.	
	To 25 per cent. commission on \$146 44 Jefferson County ads (new)	\$ 37 11
	To 15 per cent. commission on \$169 76 Jefferson County ads (renewals)	25 46
	To 25 per cent. commission on Cumberland Telephone Co. ad 1911	25 00
	To 15 per cent. commission on Cumberland Telephone Co., ad 1911	15 00
	To 15 per cent. on Geo. Wiedemann Brewing Co. ad (1911)	30 00
June 1.	VOUCHER CHECK No. 224	\$ 15 00
	DR. H. F. ZIMMERMANN, Louisville, Ky.	
	To expenses as Councilor of Fifth District for 1911.	
July 1.	VOUCHER CHECK No. 225	\$ 204 94
	DR. A. T. McCORMACK, Bowling Green, Ky.	
	To receipt book	\$ 25
	To 2,000 two-cent stamped envelopes	42 48
	To taxes as per slip attached to check	22 50
	To postage June 1st issue	9 19
	To postage June 15th issue	5 52
	To salary for June	125 00
July 1.	VOUCHER CHECK No. 226	\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.	
	To salary for June.	
July 1.	VOUCHER CHECK No. 227	\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.	
	To salary for June.	
July 1.	VOUCHER CHECK No. 228	\$ 267 10
	MESSERS. WILLIAMS AND HANDLEY, Attorneys, Hodgenville, Ky.	
	To lawyers fee in case of Thompson vs. Smith & Solomon	\$250 00
	To court costs	17 10
July 1.	VOUCHER CHECK No. 229	\$ 46 75
	MR. GEORGE HUGHES, New York City.	
	To commission on G. W. Carnrick, Reed & Carnrick and Reinchild ads.	
July 1.	VOUCHER CHECK No. 230	\$ 388 60
	THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.	
	To 1,000 letter heads, each, to Drs. Moren and Hancock	\$ 8 00
	To express	90
	To postage on Taylor cut	20
	To 5,000 ems set up and killed	3 60
	To 2,150 Jefferson County Journals, 48-page, June 15th	140 00
	By 17 type errors	4 25
	To 2,200 80-page July 1st JOURNALS	235 00
	By 11 type errors	2 75
	To 4,300 envelopes	4 30
	To 18 changes in copy	3 60
July 1.	VOUCHER CHECK No. 231	\$ 124 06
	CLYDE W. HOWELL, Bowling Green, Ky.	
	To commission on Pitman-Myers (15 per cent. of \$100 00)	\$ 15 00
	To commission on Sharp & Smith (15 per cent. of \$48 75)	7 31
	To commission on Kenilworth (15 per cent. of \$65 00)	9 75
	To commission on Indianapolis (15 per cent. of \$120 00)	18 00
	To commission on Milwaukee Sab. (15 per cent. of \$35 00)	5 25
	To commission on Bauch & Lomb (25 per cent. of \$35 00)	8 75
	To salary for June	60 00
August 1.	VOUCHER CHECK No. 232	\$ 117 80
	DR. A. T. McCORMACK, Bowling Green, Ky.	
	To postage July 1st JOURNAL	\$ 8 95
	To expenses to Henderson	4 00
	To expenses to Louisville (2 trips)	4 85
	To salary for July	100 00
August 1.	VOUCHER CHECK No. 233	\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.	
	To salary for July.	
August 1.	VOUCHER CHECK No. 234	\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.	
	To salary for July.	
August 1.	VOUCHER CHECK No. 235	\$ 50 00
	MR. L. O. POTTER, Bowling Green, Ky.	
	To salary for June and July as microscopist.	
August 1.	VOUCHER CHECK No. 236	\$ 60 00
	CLYDE W. HOWELL, Bowling Green, Ky.	
	To salary for July.	

September 3.	VOUCHER CHECK No. 237				\$ 119 18
	DR. A. T. McCORMACK, Bowling Green, Ky.				
	To postage for July 15th JOURNAL	\$ 5 52			
	To postage for August 1st JOURNAL	8 25			
	To postage for August 15th JOURNAL	5 41			
	To salary for August	100 00			
September 3.	VOUCHER CHECK No. 238				\$ 25 00
	DR. L. H. SOUTH, Bowling Green, Ky.				
	To salary for August				
September 3.	VOUCHER CHECK No. 239				\$ 25 00
	DR. V. E. SIMPSON, Louisville, Ky.				
	To salary for August				
September 3.	VOUCHER CHECK No. 240				\$ 25 00
	DR. OWEN POTTER, Bowling Green, Ky.				
	To salary for August as microscopist				
September 3.	VOUCHER CHECK No. 241				\$ 28 00
	AMERICAN MEDICAL ASSOCIATION, Chicago, Ill.				
	To 2,500 President's portraits				
September 3.	VOUCHER CHECK No. 242				\$ 37 26
	MESSRS. W. J. AND J. G. DENHARDT, Bowling Green, Ky.				
	To commission on new year contracts (25 per cent on \$101 51)	\$ 25 38			
	To commission on Renewals (15 per cent on \$79 19)	11 88			
September 3.	VOUCHER CHECK No. 243				\$ 773 60
	THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green, Ky.				
	To phone message Louisville	\$ 50			
	To 500 envelopes (used to send JOURNALS to non-members)	2 00			
	To 2,350 48-page Jeff. County No. July 15th	147 50			
	By 17 type errors		240 00	4 25	
	To 2,300 80-page August 1st issue			10 25	
	By 41 type errors				
	To 4,550 envelopes	4 55			
	To 15 changes Jefferson County number	3 00			
	To 6 changes in Regular issue	1 20			
	To express on cut of church for exhibit circulars	4 25			
	To 1,000 application blanks	3 53			
	To 1,000 floor space circulars	1 25			
	To Commercial exhibit circulars	145 00			
	To 2,200 48-page Jefferson County No. August 15th			2 75	
	By 11 type errors			4 20	
	To 2,200 envelopes	2 20			
	To 2,200 80-page September 1st issue	235 00			
	By 36 type errors			9 00	
	To 2,200 envelopes	2 20			
September 3.	VOUCHER CHECK No. 244				\$ 75 00
	CLYDE W. HOWELL, Bowling Green, Ky.				
	To salary for August				
September 3.	VOUCHER CHECK No. 245				\$ 206 98
	INTERNATIONAL INSTRUMENT COMPANY, Cambridge, Mass.				
	To 1 I. C. Centrifuge, size 2, type B 110 v. a. c. 60 cy.	\$136 00			
	To 1 Board of Health head No. 270	10 00			
	To 8 wood plugs for use in 50 c. metal tubes	50			
	To 1 I. C. 24 bottle sputum shaker	97 00			
		\$243 50			
	Less 15 per cent.	36 52			
		\$206 98			

EXHIBIT "C."

Detailed list of receipts from county societies from September 1, 1911, to September 1, 1912, compared with incomes of same period last year.

	1911	1912
Adair	\$ 32 50	\$ 17 50
Allen	22 50	29 50
Anderson	22 00	15 00
Ballard	60 00	55 00
Barren	63 00	55 50
Bath	32 50	22 50
Bell	80 00	107 50
Bonne	37 50	40 00
Bourbon	24 50	40 00
Boyd	44 50	45 00
Boyle	35 00	42 50
Bracken	7 00	19 50
Breathitt	17 50	15 00
Breckinridge	48 00	45 00
Bulout	22 00	32 50
Butler	15 00	15 00
Caldwell	37 50	37 50
Calloway	47 00	44 50
Campbell Kenton	195 00	172 50
Carlisle	42 50	34 50
Carroll	27 50	37 50
Carter	50 00	47 50
Casey	22 50	17 50
Christian	99 50	95 00
Clark	67 00	65 00
Clay	22 50	27 50
Clinton	20 00	15 00
Crittenden	20 00	19 50
Cumberland	22 50	20 00
Davies	172 50	175 00
Elliott	14 50	7 50
Estill	13 00	

Fayette	119 50	170 50
Fleming	30 00	40 00
Franklin	61 50	57 50
Fulton	56 50	46 50
Gallatin	20 00	7 50
Garrard	27 50	27 50
Grant	37 00	40 00
Graves	92 50	97 50
Grayson	54 50	50 00
Green	12 50	17 50
Greenup	27 50	29 75
Hancock	7 00	5 00
Hardin	82 00	60 00
Harlan	12 50	15 00
Harrison	69 00	62 50
Hart	30 00	34 50
Henderson	116 50	97 50
Henry	40 00	35 00
Hickman	44 00	42 50
Hopkins	92 00	77 50
Jackson	2 50	17 50
Jefferson	479 50	610 00
Jessamine	27 50	27 50
Johnson	30 00	25 00
Knott	10 00	9 50
Knox	47 00	37 50
Larue	41 50	27 50
Laurel	30 00	30 00
Lawrence	14 50	12 50
Lee	19 50	15 00
Letcher	10 00	00 00
Lewis	20 00	12 00
Lincoln	59 50	50 00
Livingston	20 00	20 00
Logan	67 50	67 50
Lyons	20 00	20 00
McCracken	140 50	125 00
McLean	25 25	28 00
Madison	58 50	50 00
Magonin	22 50	17 50
Marion	49 50	50 00

Marshall	42 50	52 50
Mason	32 50	32 50
Meade	27 50	27 50
Mercer	47 00	55 90
Metcalfe	25 00	37 50
Monroe	39 50	22 00
Montgomery	42 50	45 00
Morgan	25 75	28 25
Muhlenberg	83 00	70 00
Nelson	44 00	45 00
Nicholas	35 00	30 00
Ohio	37 50	37 50
Oldham	32 00	32 50
Owen	37 50	27 50
Owley	12 50	12 50
Pendleton	54 50	45 00
Perry	10 00	19 50
Pike	22 50	23 00
Powell	22 50	20 00
Palaski	53 00	57 50
Robertson	15 00	10 00
Rockcastle	24 50	32 50
Rowan	17 00	22 50
Russell	22 50	15 50
Scott	42 50	40 00
Shelby	69 50	67 50
Simpson	30 00	28 50
Spencer	15 00	17 50
Taylor	27 50	27 50
Todd	37 50	43 00
Trigg	30 50	22 50
Trimble	22 50	15 00
Union	64 00	54 50
Warren	141 50	160 50
Washington	30 00	35 00
Wayne	25 00	17 50
Welster	00 00	37 50
Whitley	20 50	60 00
Wolfe	25 50	21 75
Woodford	41 00	37 00

EXHIBIT "D"

INVOICE OF PROPERTY OF ASSOCIATION, SEPTEMBER 1, 1912.

Addressograph with 5,000 complete address plates with list device, etc	\$ 600 00
Folding Machine	140 00
2 Oliver Typewriters	200 00
1 Desk	79 00
Filing Cases	64 75
Rubber Stamps	9 00
1,000 Ledger Cards	2 50
Typewriter Cabinet	33 00
Guide Cards	7 48
1-3 Adding Machine	106 25
Typewriter Chair	8 00
1 Electric Fan	18 00
1 Desk Chair	32 50
1 Glove Cabinet Safe with Fixtures	130 00
2,000 No. 5 two-cent Stamped Envelopes	42 48
2,000 No. 8 two-cent Stamped Envelopes	44 00
Total	\$1516 96
Reduction for depreciation of machinery	300 00
	\$1216 96

EXHIBIT "G."

Secretary's Monthly Balance Sheet, agreeing with the books.

1911-12.	Expenses.	Collections.	Balance.
September 1		\$ 754 56	\$5,408 35
October 1	\$ 715 39	\$ 754 56	5,447 52
November 1	1,627 11	1,661 86	5,482 27
December 1	1,597 77	446 49	4,330 99
January 1	996 13	491 18	3,826 04
February 1	1,209 65	1,218 48	3,634 87
March 1	1,099 95	1,451 15	4,186 07
April 1	934 91	1,897 33	5,148 49
May 1	845 31	1,244 04	5,547 26
June 1	842 68	945 97	5,650 55
July 1	1,081 45	772 56	5,341 66
August 1	277 80	387 06	5,450 92
September 1	1,300 02	802 46	4,953 36
Total Collections		\$12,073 18	
Balance Sept. 1, 1911		5,408 35	
		\$17,481 53	
Balance Sept. 1, 1912		\$ 4,953 36	
Total Expenses		12,528 17	
		\$17,481 53	

EXHIBIT "H."

Collections by Editor on account of the JOURNAL, corresponding with checks, deposit slips and receipts filed herewith.

1911.	
October 1	\$ 194 31
November	917 24
December 1	410 99
January 1	318 64
February 1	696 48
March 1	513 15
April 1	461 33
May 1	551 08
June 1	567 72
July 1	334 56
August 1	262 56
September 1	682 46
	\$5,910 56

EXHIBIT "I."

Collections by Secretary on account of Kentucky State Medical Association, corresponding with checks, deposit slips and receipts filed herewith.

1911.	
October 1	\$ 60 25
October 1 (4th payment State Board of Health note)	500 00
November 1	174 00
November 1 (5th payment and interest State Board of Health note)	579 62
December 1	35 50
January 1	172 50
February 1	522 04
March 1	938 00
April 1	1,436 00
May 1	693 00
June 1	378 25
July 1	438 00
August 1	124 39
September 1	120 00
	\$6,162 62

REPORT OF THE SECRETARY.

I have the honor of submitting the following report from September 1, 1911 to September 1, 1912. The membership is practically the same as for the past two years. On September 1, we expect approximately 2,000 of our members to have paid their dues and to be in good standing. It is a matter of considerable regret that the entire membership of the Association does not pay their dues to the county secretaries on January 1st, of each year, as is done with fraternal and other similar organizations. I feel confident that greater promptness may be expected in the future as members not in good standing cannot, of course, be defended in case of malpractice suits. From the various counties, it is estimated that 400 physicians are, more or less, intimately connected with the Association, who do not appear on the roster at the time it is made up for the annual meeting. Many of these members fail to pay their dues to the county secretaries until immediately before the annual session. This not only keeps them off the official roster but keeps them from receiving the JOURNAL and keeping in touch with the actual work of the Association.

It will always be a matter of regret that a

larger number of members do not actively participate in the work, both of the county societies and of this Association. I am confident that the plan of organization is ideal, in many counties, in fact, is more than half of the counties of the State, practically, every physician worthy of the name is now actively at work. How may the organization then become more democratic? The only answer is that we must do more work for the benefit of the practicing physicians, who compose it, so as to secure their real interest and activity in the organization. The results that are being obtained possibly seem slow to some of our younger men, and yet the older ones can easily recall the many years before the re-organization when the total paid membership of this Association never exceeded 300, when there were practically no county societies and when there was no professional organization except along social lines. The annual meeting would have from 20 to 100 of the best and most successful physicians in the State and it is wonderful to us that they were able to accomplish anything when we understand that 3,600 of the 4,000 doctors then practicing in Kentucky, never knew there was a Kentucky State Medical Society and a large proportion of them never realized that they were members of a profession and owed it obligations as distinguished from their own individual work. The Jefferson County Medical Society has not only a larger membership than the entire Association used to have, but, under able and effective leadership, it has accomplished more in the past three years than the State Society did in its first forty years. Many of our county societies report a larger average attendance at their monthly meetings during the past year than the entire State used to have. In three counties, active campaigns for the betterment of health conditions of the people have been undertaken by the county societies and State Board of Health in cooperation. I wish every one of you could have been present in Knox or Bell or Edmonson counties at some of these meetings. If it had been necessary to pay for the services rendered by the organized profession in these three counties at the ordinary prices for such services, the entire income of this Association, in the 57 years of its existence, would be too small for the purpose and the resulting good to the profession and people of these three counties is incalculable.

There should be no let-up in the fight against those insurance companies whose examiners consist of only those members of our profession whose loss of self-respect or lack of attainment permit them to rate themselves as little better than half doctors. It is of special importance that we constantly keep in mind that the New York Life Insurance

Company is the only one of the so-called reputable companies which continues to insult the profession by offering a wholly inadequate fee for examinations. Examiners for such a company are a reproach to the profession but it must be constantly kept in mind that it is not because they charge so little for their services, for most of them are paid more than they are worth, if they are paid anything, but because their professional training was not such as to entitle them to the modest compensation demanded by the reputable and competent medical life insurance examiners. Of course, we all know that many medical students are not so grounded in Physical Diagnosis and the simpler laboratory methods necessary for insurance examiners as to make an examination by them of real value, and this Association should insist that its members should be properly equipped for service quite as earnestly as it did insist that they should be justly paid for them.

The campaign against the use of nostrums and for drug reform progresses slowly but surely. There can be no question that many lives have been sacrificed by the use of ready-made and hand-me-down pharmaceutical preparations of whose composition and indication manufacturers and prescriptionists, alike, are frequently entirely ignorant. This important matter cannot be discussed too frequently in county societies. Evidently no pharmaceutical combination should be prescribed unless its chemical composition has met the approval of the Council of Chemistry and Pharmacy of the American Medical Association, and it is to be regretted that many of the preparations they have approved are practically worthless, therapeutically. This campaign cannot be considered ended until our profession understands scientific chemistry and materia medica so they cannot be tempted to use the worthless drug messes now so frequent. Of course, the great majority of the reputable physicians of the State do not prescribe this class of mixtures, but it is to be regretted that a few men were so entirely untought in college in pharmacology and materia medica that they have been constantly the prey of the nostrum manufacturer since their graduation until now it is almost a mental impossibility for them to really understand either the physiologic or therapeutic indications for drugs. It is a pleasure to say that from careful personal investigation in twelve counties, I find that the profession is leading to that practical study of drug therapy, which is essential to our vocation—that of therapeutists. I have heard a large number of practicing physicians in various parts of the State express their disgust with consultants from the towns and

cities, who insisted on prescribing some pharmaceutical mixtures or food, about whose composition they knew nothing. It has been suggested that the family physician, in such cases,

write a firm but kind letter of protest to the consultant. This will be far more effective than criticising him to the patient or to other physicians.

County.	Population.	Total No. of Doctors.	FIRST DISTRICT.		Total Non-Members.	Non-Mem'rs Eligible to Membership.	Non-Mem'rs Ineligible to Membership.	Non-Mem'rs (Graduated Since 1907).	Non-Mem'rs in County Nov.	per Ct. of Eligible Doctors in County Nov.
			Population to each Doctor.	Total Members.						
Ballard	12,926	31	416	22	9	5	4	2	1	.70
Caldwell	14,069	27	518	15	12	6	6	2	1	.55
Calloway	20,141	32	629	18	14	10	4	3	1	.56
Carlisle	8,908	19	468	13	6	4	2	2	1	.68
Fulton	14,429	29	497	19	10	8	2	4	1	.65
Graves	33,580	51	658	30	21	21	0	7	1	.58
Hickman	11,750	18	652	16	2	0	2	1	1	.88
Livingston	10,539	16	658	8	8	6	2	3	1	.50
Lyons	9,435	8	1,179	8	0	0	0	1	1	.100
Marshall	16,024	28	572	21	7	6	1	7	1	.75
McCracken	35,839	65	551	47	15	8	7	0	1	.76
Trigg	14,595	16	912	9	7	7	0	2	1	.58
Total	202,175	340	594	226	111	81	30	40	1	.67
SECOND DISTRICT.										
Breckinridge	21,095	32	659	18	14	14	0	4	1	.56
Crittenden	13,066	17	768	7	9	8	1	1	1	.41
Daviess	41,008	84	491	70	14	10	4	8	1	.83
Hancock	8,464	11	768	9	9	9	0	2	1	.18
Henderson	28,918	47	615	29	8	2	6	3	1	.82
Hopkins	34,693	60	578	31	29	24	5	5	1	.51
McLean	13,337	22	606	11	11	6	5	2	1	.50
Muhlenberg	29,538	38	777	28	10	10	0	4	1	.73
Ohio	27,685	35	781	20	19	19	1	1	1	.4
Union	19,711	29	679	19	10	5	5	1	1	.65
Webster	21,080	40	527	13	25	25	0	4	1	.57
Total	258,915	415	624	255	159	132	27	36	1	.61
THIRD DISTRICT.										
Allen	14,908	15	993	10	5	5	0	4	1	.66
Barren	25,550	35	730	23	12	9	3	5	1	.65
Butler	15,795	13	1,215	6	7	7	0	1	1	.46
Christian	38,953	66	590	35	31	15	16	6	1	.53
Cumberland	9,954	15	663	8	7	6	1	1	1	.53
Logan	24,854	35	719	27	8	6	2	6	1	.77
Metcalfe	10,509	14	750	11	3	3	0	1	1	.74
Simpson	11,411	24	475	14	10	8	2	4	1	.58
Todd	16,381	25	655	14	11	8	3	1	1	.56
Warren-Edmonson	41,107	63	652	49	14	13	1	3	1	.71
Monroe	15,736	20	686	9	11	11	0	2	1	.45
Total	223,158	325	686	206	119	91	26	34	1	.63
FOURTH DISTRICT.										
Bullitt	9,474	17	557	12	5	5	0	1	1	.70
Grayson	19,968	28	711	21	7	4	3	1	1	.75
Hardin	22,667	38	596	24	14	13	1	4	1	.63
Hart	18,148	24	756	14	10	6	4	2	1	.54
Henry	13,606	27	503	13	14	10	4	1	1	.48
Larue	10,694	13	822	11	2	2	0	2	1	.84
Mende	9,693	13	745	11	2	2	0	2	1	.76
Nelson	16,859	26	648	20	6	6	0	3	1	.54
Oldham	7,268	17	427	10	7	7	0	1	1	.84
Shelby	18,005	34	529	27	7	4	3	2	1	.79
Total	146,282	237	617	163	74	56	18	17	1	.68
FIFTH DISTRICT.										
Anderson	10,175	18	564	6	12	8	4	1	1	.31
Boone	9,207	27	341	16	11	9	2	3	1	.57
Carroll	7,901	17	464	15	2	2	0	1	1	.83
Franklin	21,169	34	622	22	12	12	0	2	1	.64
Gallatin	4,641	10	464	3	7	7	0	1	1	.42
Jefferson	266,636	500	535	209	291	291	0	112	1	.55
Owen	13,845	20	692	11	9	9	0	0	1	.55
Stencer	7,586	12	632	7	5	3	2	2	1	.58
Trimble	6,420	8	802	5	3	1	2	0	1	.62
Total	317,562	546	598	294	352	342	10	122	1	.54
SIXTH DISTRICT.										
Adair	16,700	21	791	7	14	12	2	5	1	.33
Boyle	14,772	21	703	17	4	0	4	1	1	.86
Boyle	11,825	12	985	8	4	2	2	2	1	.66
Marion	16,334	24	680	20	9	4	3	2	1	.84
Morgan	14,020	18	500	19	9	6	3	3	1	.67
Taylor	12,068	13	862	11	2	1	1	1	1	.81
Washington	13,911	17	818	14	3	2	1	2	1	.82
Total	99,630	136	732	96	40	25	15	16	1	.70

County.	Population.	Total No. of Doctors.	Population to each Doctor.	Total Members.	Total Non-Members.	Non-Members Eligible to Membership.	Non-Members Ineligible to Membership.	Non-Members Graduated Since 1907.	Per Ct. of Eligible Doctors in County.
SEVENTH DISTRICT.									
Cass	15,520	15	1,034	7	8	2	0	1	.46
Clinton	8,187	8	1,023	6	2	0	0	0	.75
Garrard	11,876	12	989	11	1	1	0	1	.91
Lincoln	17,998	25	719	20	5	5	0	0	.80
Pulaski	36,560	34	1,075	23	11	7	4	6	.67
Rockcastle	14,724	14	1,051	11	3	3	1	7	.78
Russell	11,003	14	785	6	8	3	1	4	.42
Wayne	17,828	15	1,189	7	8	6	2	2	.46
Total	133,706	137	975	91	46	38	8	15	.66
EIGHTH DISTRICT.									
Bourbon	17,390	37	470	15	22	22	0	3	.40
Bracken	10,085	18	560	8	10	10	0	3	.44
Campbell-Kenton	131,181	176	745	83	94	94	0	23	.47
Fleming	15,943	25	637	15	10	9	1	0	.60
Grant	10,256	28	366	16	12	7	5	3	.57
Harrison	16,667	32	520	25	7	5	2	8	.78
Jessamine	12,696	20	634	10	10	6	4	2	.50
Mason	18,389	28	656	13	15	15	0	4	.46
Nicholas	10,437	20	521	13	7	7	0	0	.65
Pendleton	11,623	25	464	18	7	6	1	0	.72
Robertson	4,927	8	503	4	4	4	0	1	.50
Scott	16,820	28	600	16	12	4	8	1	.57
Woodford	12,503	22	568	15	7	7	0	1	.68
Total	288,017	467	616	231	217	196	21	43	.53
NINTH DISTRICT.									
Boyd	24,008	35	685	18	17	14	3	3	.51
Carter	22,179	26	853	19	7	4	3	2	.73
Elliott	9,744	7	1,319	3	14	1	0	2	.42
Floyd	9,999	15	1,166	0	15	14	1	4	.00
Greenup	18,847	29	642	11	9	9	0	1	.55
Johnson	17,940	27	664	10	17	14	3	10	.37
Lawrence	20,122	28	718	5	23	23	0	6	.17
Lewis	16,768	14	1,197	5	9	9	0	2	.35
Magoffin	12,854	8	1,731	7	1	1	0	0	.87
Martin	12,854	3	2,475	0	3	3	0	0	.00
Pike	32,778	28	1,170	9	19	17	2	8	.32
Total	202,714	211	960	87	124	98	12	38	.41
TENTH DISTRICT.									
Bath	13,808	19	731	9	10	10	0	2	.47
Breathitt	17,933	8	2,241	6	2	2	0	2	.75
Clark	18,145	36	540	29	7	5	2	2	.80
Estill	12,347	11	1,122	0	11	0	3	1	.00
Fayette	48,406	94	514	67	27	12	15	10	.71
Knott	11,046	8	1,380	4	4	4	0	2	.59
Letcher	10,799	7	1,542	0	7	7	0	4	.00
Lee	9,719	12	809	6	6	6	0	2	.50
Madison	27,116	36	753	29	16	16	0	0	.55
Menifee	6,072	4	1,518	0	4	4	0	1	.00
Montgomery	12,871	26	644	3	3	3	0	1	.85
Morgan	16,683	18	926	9	9	9	0	1	.50
Owsley	8,113	5	1,622	5	0	0	0	0	.100
Perry	11,618	8	1,452	7	1	1	0	3	.87
Powell	6,248	9	694	8	1	1	0	0	.86
Rowan	9,570	19	957	9	1	1	0	0	.90
Wolfe	9,998	12	833	9	3	3	0	0	.75
Total	250,591	317	790	205	112	95	20	31	.64
ELEVENTH DISTRICT.									
Bell	30,006	45	666	41	4	3	1	8	.91
Clay	18,086	13	1,391	11	2	2	0	4	.84
Harlan	10,654	10	1,065	6	4	4	0	5	.60
Jackson	10,754	4	2,688	4	0	0	1	1	.100
Knox	22,696	17	1,335	13	4	1	3	5	.78
Laurel	26,150	20	1,067	12	8	7	1	1	.60
Leslie	9,247	2	4,623	0	2	2	0	0	.00
Whitley	32,832	39	811	24	15	11	4	8	.61
Total	154,426	150	1,029	111	39	39	9	32	.74

I feel confident that the analysis of the usual membership tables will be found of special interest this year. It will be noted that the 1912 roll shows an increase over the five-year average in the first, second, sixth, seventh, eighth, tenth and eleventh districts, and decreases in the others. It is to be regretted that these ratios will be changed considerably as to the number of members who will pay their dues between September 1st

and date of the annual meeting. From the larger table, it will be seen that we have a population of 725 persons to each registered physician in the State. There are 1,393 registered physicians who are not members of this organization and, of these, 1,184 are eligible to membership. The special attention of the House of Delegates is again called to the fact that 424 of these non-members graduated since 1907. I desire to suggest that arrange-

ments be made with the faculty of the University of Louisville for a systematic course of lectures on Medical Economics and the advantages of society membership. This lecture-ship would be provided and conducted under the auspices of this Association. The medical profession and people of Kentucky have a right to be proud of the University of Louisville and we can show this best by active co-operation with them in the really excellent work they are doing. It is noteworthy that only 62 per cent. of the profession of Kentucky are members of their county societies. It is always difficult to draw invidious distinction, but I am sure it will be stimulating to the entire profession of the State to know that the largest proportionate membership is in the Eleventh District, where the physicians are very much scattered but where they are doing a character of work as an organization that makes it almost essential for every active doctor to be a member.

The attached tables show the average membership for five years compared with membership for 1912 with the increase or decrease as the case may be:

FIRST DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Ballard	21	22	1	..
Caldwell	19	15	..	4
Calloway	17	18	1	..
Carlisle	14	13	..	1
Fulton	18	19	1	..
Graves	22	30	8	..
Hickman	16	16	..	..
Livingston	7	8	1	..
Lyons	7	7 (3 yrs)	1	..
Marshall	15	21	6	..
McCracken	42	47	5	..
Trigg	7	9	2	..
Total	205	226	26	5

SECOND DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Breckinridge	15	18	3	..
Crittenden	12	7	..	5
Daviess	68	70	2	..
Hancock	2	2	..	..
Henderson	33	39	6	..
Hopkins	28	31	3	..
McLean	11	11	..	..
Madison	27	29	2	..
Ohio	14	15	1	..
Union	24	19	..	5
Waller	1	1 (2 yrs)	14	..
Total	235	253	30	10

THIRD DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Allen	11	10	..	1
Barren	20	23	3	..
Butler	10	6	..	4
Christian	35	35	..	..
Cumberland	8	8	..	..
Letcher	26	27	1	..
Metcalf	11	11	..	..
Monroe	11	9	..	2
Simonson	12	14	2	..
Todd	18	14	..	4
Warren	59	52	..	7
Edmonson	..	..	..	..
Total	221	209	6	18

FOURTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Bullitt	13	12	..	1
Grayson	21	21	..	..
Hardin	27	24	..	3
Hart	16	14	..	2
Henry	19	13	..	6
Larue	9	11	2	..
Meade	9	11	2	..
Nelson	20	20	..	..
Oldham	13	10	..	3
Shelby	24	27	3	..
Total	171	163	7	15

FIFTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Anderson	10	6	..	4
Boone	12	16	4	..
Carroll	14	15	1	..
Franklin	21	23	2	..
Gallatin	4 (4 yrs)	3	..	1
Jefferson	225	209	..	16
Owen	13	11	..	2
Stencer	7 (2 yrs)	7	..	..
Trimble	9	5	..	4
Total	315	295	7	27

SIXTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Adair	14	17	..	7
Boyle	13	17	4	..
Green	7	8	1	..
Marion	19	20	1	..
Mercer	16	19	3	..
Taylor	10	11	1	..
Washington	12	14	2	..
Total	91	96	12	7

SEVENTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Casey	12	7	..	5
Clinton	7	6	..	1
Garrard	10	11	1	..
Lincoln	15	20	5	..
Polaski	23	23	..	..
Rockcastle	9	11	2	..
Russell	6	6	..	..
Wayne	8	7	..	1
Total	90	91	8	7

EIGHTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Boyd	17	15	..	2
Bracken	5 (4 yrs)	8	3	..
Campbell-Kenton	78	68	..	10
Fleming	12	15	3	..
Grant	12	16	4	..
Harrison	26	25	..	1
Jessamine	9	10	1	..
Mason	14	13	..	1
Nicholas	11	13	2	..
Pendleton	20	18	..	2
Robertson	3	4	1	..
Scott	18	16	..	2
Woodford	10	15	5	..
Total	235	236	19	14

NINTH DISTRICT.				
County.	Average Membership for 5 yrs.	1912.	Increase.	Decrease.
Boyd	18	18	..	..
Carter	20	19	..	1
Elliott	6 (4 yrs)	3	..	3
Greenup	10 (4 yrs)	11	1	..
Johnson	11 (4 yrs)	10	..	1
Lawrence	5	5	..	..
Lewis	7	5	..	2
Magee	5 (2 yrs)	7	2	..
Pike	10	9	..	1
Total	92	87	5	8

TENTH DISTRICT.

County.	Av. Memb'ship for 5 yrs.	1912.	Inc.	Dec.
Bath	15	9	..	6
Breathitt	5	6	1	..
Clark	21	29	8	..
Estill	6	..	0	6
Fayette	58	67	9	..
Knott	4 (3 yrs)	4	..	..
Lee	5	4	1	..
Letcher	3 (2 yrs)	..	..	3
Madison	16	20	4	..
Menifee	2 (3 yrs)	..	..	2
Montgomery	10	17	7	..
Morgan	7 (2 yrs)	9	2	..
Owsley	4	5	1	..
Perry	4 (2 yrs)	7	3	..
Powell	10	8	..	2
Rawan	7	9	2	..
Wolfe	8	9	1	..
Total	185	205	39	19

ELEVENTH DISTRICT.

County.	Av. Memb'ship for 5 yrs.	1912.	Inc.	Dec.
Bell	22	41	19	..
Clay	8	11	3	..
Harlan	4	6	2	..
Jackson	3	4	1	..
Knox	13	13	..	..
Laurel	10	12	..	..
Leslie	3 (2 yrs)	..	..	3
Whitley	16	24	8	..
Total	79	111	35	3

It will be noted that the total resources of the Association are \$6,377.30. The especial attention of the House of Delegates is called to the report of the Chairman of the Medico-Legal Committee, which leads us to fear an increased expense by this Committee in succeeding years.

PURE FOOD AND DRUG REPORT.

During the year 1911, the Food and Drug Division of Lexington inspected and analyzed 1,023 samples of drugs, 389 of which were adulterated. It also received and examined some several hundred labels and advertisements in connection with patent medicines. The drug analyses have covered a wide range of articles. The articles examined included aqua ammonia, arsenic iodide, asafoetida, aromatic spirit ammonia, ammonium carbonate, alcohol, acetic acid, ammonium bromide, acetanilid, acetphenetidin, aromatic sulphuric acids, boric acid, bay rum; bromide strontium, bismuth sub-nitrate, benzoic acid, borax, blue ointment, beef, wine and iron, chloral hydrate, spirit camphor, gum camphor, camphor liniment, chloride of lime, castor oil, cod liver oil, collodion, cream tartar, creosote, calomel tablets, citric acid, carbolic acid, calomel, dilute hydrochloric acid, dilute acetic acid, dilute phosphoric acid, extract witch hazel, extract nux vomica, essence lemon, epsom salts, Fowler's solution, glycerin, glacial acetic, hydrogen peroxide, iodine, iron and strychnine citrate, iodoform, lactic acid, lithium salicylate, lithium citrate, lime water, linseed oil, maganese sulphate, magnesium oxide, magnesium carbonate, mercurial ointment, morphine tablets, oxide zinc ointment, opium, oil peach kernel, oil

sweet almonds, olive oil, phosphoric acid, potassium carbonate, potassium cyanide, potassium citrate, potassium acetate, potassium bromide, potassium iodide, Paris green, paregoric, quinine sulphate, Rochelle salts, sodium bicarbonate, sodium carbonate, sodium bromide, sodium phenol sulphonate, silver nitrate, sugar of lead, strontium salicylate, sweet spirit nitre, spirit peppermint, sodium citrate, sodium salicylate, sulphur precipitated, sugar of milk, sodium phosphate, salol, solution ferric chloride, syrup ferrous iodide, salicylic acid, spirit ammonia, seidlitz powders, tincture iodine, tincture opium, turpentine, tincture ferric chloride, tartaric acid, tannic acid, tincture nux vomica, tincture ginger, zinc sulphate, zinc phenol sulphonate, zinc oxide. As in the case of the food analyses, each instance of adulteration and misbranding is being reported in the published notices and bulletins. This shows an examination of a wider list of articles than has been reported from either the Federal Government or any of the State departments.

The work for 1912 will include about as many or probably more samples and will include more constructive work than has been done heretofore. For example, in one instance, arrangements were made to co-operate with the druggists in the making of various standard tinctures, and in order to check up the accuracy of the ordinary pharmacists in this connection, amounts of standard ingredients were sent to various druggists over the State, who were asked to make the same into tinctures of iodine, sweet spirits of nitre, and so on, and to send the same in for analyses. The results showed that the Kentucky pharmacists can get pretty close to the standard laid down in the United States Pharmacopoeia, and show further that any shortages that may exist are due either to fault of the manufacturer or wholesaler, or to carelessness, and, in exceptional cases, fraud on the part of the retail druggists.

Work along the problem of the proper methods of preserving and protecting drug products from deterioration has been continued, and with evidence of splendid results.

The work against misstatements in the labels and advertisements of patent medicines is beginning to show results. For example, the label on Cascarets has been changed from "A Cure for Chronic Constipation," to "Intended for Use In Constipation." This last label, of course, accurately describes the properties of cascara, but the former label did not. Misstatements in many of the advertisements are still being made, but as the advertisements prepared for the year's consumption by the daily and weekly newspapers are appearing anew, much of the objectionable advertising is being eliminated; for example, the manu-

facturers of Duffy's Malt Whiskey stop saying that the product will "cure" various diseases, and "will make new blood," and so on.

The Division intends to take up the physiological assay of such products as digitalis, just as soon as the special food and drug laboratories that are being fitted up in the new building are available. The erection of the new addition to the Experiment Station will give laboratory facilities for food and drug investigation probably second to none in this country, and above all, will give facilities for greater increased work along all of these lines.

In conclusion I desire to record my especial appreciation of the active co-operation of practically all of our county secretaries in the routine work of the year, which has been carried on under your direction. Next to the Councilors, who are the *sine qua non* of our system, the county secretary is the most important link in the whole chain. To him fall the arduous duties of making and filling the programs and the society is a strong or a weak one in exact proportion to the value of the county secretary. To your officers, and to the whole membership, I desire to extend my gratitude for the assistance and courtesy which have made the arduous duties of my position unusually pleasant during the past year.

Respectfully submitted,

A. T. McCORMACK,
Secretary.

TREASURER'S REPORT

DR. E. RAU,

Chairman of the Council of Kentucky State Medical Association:

DEAR SIR:

For a detailed report of the transactions of the Treasurer's office I respectfully refer you to the published report of the Auditor in the October number of our JOURNAL.

You will observe from a perusal of the report (Auditor's) that compared with last year we are not quite so well off financially, and yet not a sufficient "shump" as to give rise to a panic.

We received from County Societies \$266.85 less in 1912 than in 1911.

But thanks to our Secretary through whose able intelligent and hustling qualities, we are enabled to report an increase of \$535.56 over last year's income from publication of the JOURNAL.

As we grow and do things more thoroughly than formerly our expenses naturally increase.

During the past year our disbursements have increased \$968.74 over those of last year.

With an expression of the belief that our Association is on a firmer basis, is doing bet-

ter work, and has a brighter future than ever before, I submit this brief report from the Treasurer's office.

Respectfully submitted,

W. B. McClure, Treasurer.

REPORT OF THE MEDICO-LEGAL COMMITTEE.

I have the honor to submit the following report of the Medico-Legal Committee. In making this my fourth annual report, I wish to again express my confidence in the value of the Medical Defense, and feel that the protection offered by this Committee is worth more in dollars and cents than any other feature of the State Association. The past year has been a very busy one, a total of thirteen cases having been presented to us. In 1909 five cases were reported, one went to trial, the rest were abandoned. In 1910 no cases were reported. In 1911 we had eleven cases, two were declined, one non-member, two trials were won, two cases are still pending, and four have practically been abandoned. In 1912 we have had thirteen cases reported, making a total of twenty-nine cases in the four years.

In the past few years several cases have been brought against non-members which were handled by other people and were not reported to the Medico-Legal Committee. This shows that suits are being brought against the doctors. The results of the Medical Defense is most gratifying. *So far we have not lost a single point.* This conforms to the results accomplished in other States. Out of several hundred cases occurring in the many States, so far, only two cases have been reported lost. One in New Jersey, and one in Illinois.

Of the thirteen cases which occurred this year, we refused to handle one case on the ground that the doctor resided in an adjoining State. It seems that in Eastern Tennessee many counties have no regular organized county societies and many of the doctors pay dues and are considered members of the Kentucky County Societies, and therefore are members of the State Society. Our Secretary informs me that the State of Tennessee gave its consent to these men to join the Kentucky county society. In view of the fact that he was a member in good standing in both the County and State Societies, our counsellor advised against supporting the doctor on the ground that he was a non-resident of Kentucky, and thought it a bad precedent to defend such cases.

One other case we refused to handle because the action occurred previous to March 15th, 1912, and the doctor joined his county society and paid his dues August 8th, 1912.

One case has been tried and won, one threat

has practically been abandoned, but at present we have nine cases pending and all look like trial cases, but we hope that many of them will be abandoned. In addition we have two suits pending from 1911, making a total of eleven cases pending at this time.

EXPENSE OF DEFENSE COMPARED TO OTHER STATES.

Massachusetts in four years had nine cases, with three trials, cost \$1,481.00.

Nebraska in four years had seven cases, no trials, cost \$278.45.

New York in five years had three hundred cases, with over two hundred won. Average cost \$3,000 per year.

Missouri in three years had forty-five cases, twenty-eight won or dismissed, cost \$1,100.

Iowa in four years had seventy cases, ten tried, cost \$10,051.35.

Illinois had nineteen cases in 1912, five tried, one lost, cost \$4,038.

Kentucky in four years had twenty-nine cases, four trials, cost \$1,861.15. (Total expense to date).

It might be asked, "What is the reason of the increase in the number of cases this year?" Other states report more cases in 1912 than in any other year. The most important factor in Kentucky might be explained on the ground that two or three cases succeeded in obtaining verdicts against the doctor. This is the experience in other states, where cases have been won other suits have been brought. This with the tendency to sue for damages in all industrial works prompts dissatisfied people to seek damages against the doctor.

I quote the following from the New York State report for 1912:

"The reason why a larger number of cases have been brought this year than for many years past, I cannot satisfactorily explain, except in one case, where it appears verdicts were secured against a dentist and a physician who was not a member of the State Medical Society, when soon thereafter there appeared in that particular locality five malpractice suits against members of the State Society; the increase in membership of the State Society does not in itself afford a sufficient number to account for this increase in suits brought. The willingness of members of the State Society and others to make use of what is known as indemnity insurance, is a potent factor in breeding malpractice cases. I believe that members of the profession should abandon this practice of taking out insurance; it might be thought to show moral weakness on the part of the profession, and is harmful not only to the man who is the holder of the policy, but to the profession as well."

Our relations with the insurance com-

panies have been pleasant; however, they are seeking a line of work which we are trying to check. I mention this question in our interest and not as a criticism of the various companies offering this line of insurance.

RECOMMENDATIONS.

1st. The funds to defend suits are obtained by one of two ways. First, from the funds of the State Society: Second, additional dues. Only states with a large number of doctors as New York, Massachusetts, etc., rely upon state dues alone. Other states collect from seventy-five cents to two dollars from each member for defense dues. Kentucky is the lowest, fifty cents, and to be able to meet the demand, which is very liable to occur by having on hand so many suits, which might have one or more trials; with the possibility of carrying the suit to the Court of Appeals, leads me to the opinion that we should increase our dues to one dollar per member.

2nd. We would especially advise the doctor to be guarded in handling all cases as the tendency to sue is becoming more common, especially, in fractures.

In fracture cases it is well to follow the example of a certain doctor. He always asks for a consultant. One patient said to him, "Why is it, Doctor, that you always ask for another doctor in these cases?" The doctor's reply was, "If things go wrong you would have a dozen lawyers."

On account of the frequency of suits for malpractice, our responsibility has increased and we should not hesitate to call a consultant or be watchful of all facts pertaining to treatment and management of these cases. *Let me remind you that all cases are not surgical, the general practitioner is suffering most.*

3rd. The question of counter claim suits for malpractice has given the Committee some work. It is the opinion of your chairman that some specifications should be made to govern these cases. The most essential is that these questionable bills against dissatisfied patients should be submitted to our attorney for advice before plunging into a suit for collection.

In 1911 through the advice of our attorney we stopped a suit of \$10,000 by the doctor agreeing to drop a bill of \$15.00 or \$20.00; however, I wish to say the doctor did his best and had the support of his associates.

It is hard to turn down a doctor who is sued, but it seems hard to defend cases that are prompted by threats of collecting bills against poor people who are dissatisfied. I do not wish it understood that I propose to let all bills be dropped, but I do want you to know some of the questions that confront us and ask your advice.

4th. Again I ask the physicians to be care-

ful of their remarks concerning the work of others.

Respectfully submitted,

JOHN J. MOREN,

Chairman, Medico-Legal Committee.

I have appended to this report a statement prepared by our attorneys, Hines & Norman, of all cases handled by your Committee since it was organized. This statement includes many cases of threatened suits which were never brought, the claims being dropped in some cases as the direct result of our efforts. The matter of fees of local counsel is a troublesome one as we have to act in some cases on such short notice that our general counsel have not time to negotiate with local counsel as to fees. If we could have an attorney retained in each county or district in the State the matter of attorneys' fees would be simplified, but since we regard the wishes of the defendant in the selection of local counsel as far as possible it is not feasible to have an attorney retained in all cases in each county. It is our aim to have the ablest attorneys we can employ in every case, and it always takes money to get the best, but we are learning by experience and believe that the doctors themselves can help us to keep down expenses. In one or more cases the defendant has indicated to attorneys in advance the fee that would be paid and has thus embarrassed us in our effort to agree upon a fee. The doctors can help us very much by letting attorneys know that the medical defense fund is a limited fund and that the medical defense branch of this society cannot continue to exist if we are to pay liberal fees to attorneys in every case, regardless of its merit. While we do not wish to be treated as charity clients yet we believe that when attorneys generally understand that malpractice suits are as a rule unjust and that our general counsel serve us for hardly more than nominal compensation they will recognize the propriety of charging fees which might be considered small in other damage suits. We trust, therefore, that our members as they have opportunity will help us to educate the legal profession along the line suggested. Counter-claims for damages in suits by doctors on their bills are also troublesome cases as to attorneys' fees. Such counter-claims are usually interposed merely to defeat the doctors' bill, and the doctors' attorney, if the doctor were paying the costs of the suit, would not think of charging such a fee as he would charge for defending an original suit against the doctor for malpractice, yet when this Committee steps in the attorney, in fixing his fee, is prone to treat the suit as an original suit for malpractice, and to charge accordingly. We believe that it would be wise for the Association to adopt a rule that in no event shall our Committee pay more than \$50.00 on

the attorney's fee in such cases. There can be little doubt that the doctor could hold down to that amount in most cases the additional fee charged by reason of the Counter-claim, and such a rule would make doctors cautious about suing on their bills where there is a prospect of a counter-claim for damages.

Your Committee would further report that our attorneys prepared and caused to be introduced at the last session of the Legislature a bill amending the statute of limitations as to malpractice suits so as to reduce the period of limitation from five years to one year, and the bill passed the Senate in the last days of the session but too late to be called up in the House. We are indebted to Senator Hite Huffaker and Lieutenant Governor McDermott for their interest in the bill in the Senate.

Claim against Dr. P.—Colles fracture and dislocation of wrist joint. Defendant reduced and set fracture and dislocation September 28, 1908. Defendant was ready for trial when plaintiff dismissed case December 7, 1909. Fee of \$100 paid.

Claim against Dr. H.—Mistake in giving creosote instead of harmless eye water for eye. Verdict for defendant May 25, 1911. Dangerous case. Attorney's fee of \$250.

Claim against Dr. M.—Setting of broken leg, October, 1910. Bad results alleged as result of defendant's negligence. Verdict for defendant, October 5, 1911. Attorney's fee \$100.

Claim against Dr. K.—Suit for Doctor's bill for treating fracture of the femur ulna and radius in March, 1910. Counter claim. Compromised in October, 1911, by Doctor remitting part of bill. Attorney's fee of \$100.

Claim against Drs. S. & S.—Removal in March, 1912, of particle from eye alleged to have resulted in loss of eye. Verdict for defendant in May, 1912. Trial occupied two days. Attorney's fee \$250.

Claim against Dr. C.—Mistake in prescription for glasses in June, 1909. Plaintiff required to give bond for costs, which she has failed to do. Case is sleeping.

Claim against Dr. B.—Colles' fracture of arm, December, 1910. Suit filed March 25, 1911. Will probably never be tried.

Claim against Dr. Me.—Operation on frontal sinus followed by delirium tremens resulting in death. Piece of instrument left in cavity. Answer filed and case will probably be tried in November.

Claim against Dr. H.—Nail wound in foot. Doctor said operation would have to be performed but parents of child said "Wait and see." and in defendant's absence had operation performed by another Doctor. Trial had September.

Claim against Dr. Mc.—Suit in Magistrate's Court for Doctor's bill of \$45 for setting

broken arm of child of ten years of age. Counter-claim for damages for alleged malpractice and case transferred to Circuit Court where it is pending. Probably reached for trial in November.

Claim against Dr. B.—Suit in Federal Court at Paducah. Amputation of leg. Motion to require plaintiff to elect whether he would sue Drs. B. and McW for the alleged negligent treatment prior to amputation or sue all the defendants for the alleged negligent amputation and he elected to sue all the defendants for the alleged negligent amputation. Case will probably be tried in November.

Claim against Dr. S.—Dislocation of left hip joint of boy of 13 years of age. Alleged that defendant negligently failed to replace the dislocated joint although he represented that he had done so. Treatment in April and May, 1911 and suit filed in July, 1912. Defendant took out policy in Medical Protective Company in September, 1911, but they refused to defend as policy was taken out after alleged act of malpractice.

Claim against Dr. C.—Injury to leg in falling of chestnut pole upon it causing two pieces of wood to enter the flesh. Alleged negligence in failing to remove the pieces of wood from the leg causing permanent lameness. Answer filed and case will probably be tried in November.

Claim against Dr. B.—Pad left in abdomen after removal of ovary, and stitches subsequently taken out and pad removed. Death followed. Case will probably be tried in the near future.

Claim against Dr. L.—Treated September 4, 1911, a 9-year old boy, for a fracture of the arm, near the elbow. Arm knit satisfactorily but a nerve that had been damaged did not regain its function. Suit filed August 23, 1912.

Claim against Dr. F.—Compound fracture of forearm and crushed bones of hand of boy. Dismissed case because father and mother refused to follow instructions. Suit brought in August, 1912.

Claim against Dr. B.—Alleged negligence of defendant as County Health Officer of Kenton County in failing to isolate small-pox patient. Assistance given by our general counsel to defendant's attorney in December, 1908. Judgment for defendant.

Claim against Dr. G.—Injury to leg. Alleged improper treatment resulting in permanent lameness. List of authorities furnished by our general counsel to attorney for defendant, and correspondence and advice in December, 1909.

Claim against Dr. O.—Suit for libel in returning alleged false birth certificate. Counsel retained by Committee in December, 1911, to

defend but we refused to defend when plaintiff amended petition and based action upon alleged oral statements of defendant. No attorney's fee or other expenses.

Claim against Dr. H.—Threatened suit for alleged neglect of obstetric case. Claim abandoned when our general counsel wrote claimant's attorney that claim would be resisted by our Committee. No attorney's fee.

Claim against Dr. K.—Threatened suit in March, 1909. Facial paralysis following operation for acute mastoiditis. Correspondence and advice. Claim abandoned.

Claim against Dr. B.—Threatened suit in August 1909, for giving strong and dangerous medicine to plaintiff's wife from which she died. Correspondence and advice, and application made for defense. Claim abandoned after being placed in attorney's hands. No attorney's fee.

Claim against Dr. V.—Operation alleged to have been performed without consent. Correspondence with attorneys for defendant and reference to authorities. Judgment against Dr. V., reversed by the Court of Appeals in June, 1912.

Claim against Dr. M., in March, 1911. Threatened suit never brought.

Claim against Dr. S.—Threatened suit for death alleged to have resulted from Doctor's action in giving dangerous medicine which was too strong for the patient. Claim abandoned after conference by our attorneys with claimant's attorney. No attorney's fee.

JOHN J. MOREN,
Chairman.

REPORT OF THE BUSINESS MANAGER.

As the JOURNAL is owned by the physicians of Kentucky, the following tabulation should be of special interest to every one of them, as it shows the comparative status of the JOURNAL for the last two years:

	1911	1912
Number of pages of reading matter	1,138	1,128
Number of Advertising pages	494	506
Special Articles	1	5
Official Announcements	118	46
Special Society Reports	6	3
Index	11	8
Book Reviews	45	36
Editorials	71	94
Scientific Editorials	35	51
Abstracts	111	90
Original Articles	281	320
Illustrations	39	26
Forms	5	8
News Items	0	116
Advertisers	153	116

HOW THE JOURNAL IS MAINTAINED.

By referring to the report of the Council it will be seen that, as was shown in my last report, the JOURNAL has been published in former years not only without one dollar of cost to members but at a small net profit, and it may be of interest to you to know that this is true of no other State Journal, but this is not quite true of the present year. This means

that the entire cost of printing, distribution, and expenses incident thereto, have been paid from funds received from advertisers, subscriptions and sale of Journals. Our chief income has been from our advertising pages, and this gratifying financial statement would not be possible but for the recognition by county societies and membership generally of their interest in the success of this feature of the JOURNAL. The rigid scrutiny by the Council of the character of all advertisements admitted to our pages, excluding everything not conforming to the requirements of the Council on Pharmacy of the American Medical Association, has given a confidence to the profession, naturally skeptical because so often misled by publications which ought to have been dependable, which, properly recognized and continued, ought to put its patronage upon a reliable basis. With such carefully selected and dependable advertisers, if the JOURNAL is in the future to be conducted without expense to the Association, it is important that the members read and give preference to what is offered in our advertising columns, making them still more attractive and profitable to every firm which can come up to the high standards set by the Council.

EXHIBITS.

An especially active campaign was made to secure the right class of exhibitors for this meeting. A brochure explaining the central location and attractiveness of this metropolitan city as a place of meeting, and containing the floor plan of the exhibit hall, price list and other desirable information, was mailed to leading manufacturing firms in every section of the United States. The result is an exhibit as will be shown by the full description found on another page of this issue, worthy of your consideration. It is urged, in the same reciprocal spirit asked for our advertisers, that members visit and go over these exhibits carefully, and give to the people who patronize and help support our enterprises a proper preference in making necessary purchases.

THE INDEX.

As in former years, the January number will be found to contain a complete index of editorials, original articles, proceedings of county societies, official announcements and book reviews, with a cross index showing the name of every physician who has contributed an original article, or appeared in the proceedings of his home society. This shows a total of 471 who have in some way taken part in professional work during the past year.

ASSOCIATION OF COUNTY SECRETARIES.

In an effort to co-ordinate the business affairs of the county societies, in so far as they relate to this department, the Association of

County Secretaries was organized in 1909, and since that year, instructive and profitable meetings have been held on the Monday evening preceeding each general session. Letters go out to all county secretaries urging the importance of attendance, and why and how such attendance will benefit them and the work in their respective societies, although there is little difficulty in getting those to come who have ever been present at the meetings.

HOW EACH COUNTY SOCIETY HAS HELPED THE JOURNAL.

As a matter of interest to the entire profession, the following is published to show, in a measure, what each county society did for the JOURNAL in 1911, and again in 1912:

COUNTY	MINUTES		ORIGINAL ARTICLES	
	1911	1912	1911	1912
Adair	1	2	1	2
Allen	1	0	0	0
Anderson	2	0	0	0
Ballard	0	3	0	0
Barren	4	6	2	2
Bath	0	0	0	0
Boone	4	8	2	4
Bell	4	5	0	5
Bourbon	0	2	0	1
Boyd	4	1	1	2
Boyle	2	0	0	2
Bracken	0	0	0	0
Breathitt	0	0	0	0
Brockton	0	0	0	0
Bullitt	0	0	0	0
Butler	0	0	1	0
Caldwell	4	0	0	0
Calloway	0	3	0	0
Campbell/Kenton	3	2	4	2
Carlisle	3	4	4	8
Carroll	2	0	0	0
Carter	1	2	0	0
Cassy	0	0	0	0
Christian	4	4	2	3
Clinton	0	0	0	0
Clark	0	1	0	3
Clay	0	0	0	0
Crittenden	0	0	0	0
Cumberland	0	0	0	0
Daviess	2	1	2	11
Edmonson	0	0	0	0
Estill	0	0	0	0
Fayette	1	1	2	9
Fleming	0	3	1	1
Floyd	0	0	0	0
Franklin	6	2	0	0
Fulton	1	0	0	0
Gallatin	0	0	0	0
Garrard	0	0	0	0
Grant	1	0	1	0
Graves	0	1	0	0
Grasson	1	0	0	0
Green	0	0	0	0
Hardin	2	0	0	0
Harrison	0	1	0	0
Harrison	2	0	0	2
Hart	4	3	1	2
Henderson	1	3	3	12
Henry	3	1	2	5
Hickman	0	0	0	0
Hopkins	1	0	2	4
Jefferson	10	8	120	136
Jessamine	1	0	0	0
Johnson	1	0	0	0
Knox	0	1	0	2
Laurel	0	1	0	0
Larue	0	0	2	0
Lee	0	0	0	1
Lincoln	1	1	1	1
Logan	1	1	0	2
Lyons	2	2	1	1
McCracken	1	0	0	0
McLean	1	2	0	0
Madison	0	0	0	0
Marion	0	0	0	0
Marshall	2	0	1	1
Mercer	2	0	0	0
Mason	0	1	0	1
Meade	0	0	0	1
Metcalf	0	0	0	1
Morgan	0	0	0	1

Monroe	1	0	0	0
Montgomery	1	2	0	0
Nelson	1	1	2	4
Ohio	0	2	0	2
Oldham	0	4	6	4
Owen	4	0	6	5
Owsley	0	0	1	0
Pendleton	9	6	6	11
Pike	0	0	1	2
Putnack	1	1	0	1
Rowan	1	1	0	1
Russell	2	2	0	0
Scott	1	0	0	0
Simpson	0	2	0	5
Spencer	1	0	0	1
Taylor	3	0	3	1
Todd	0	0	0	0
Trigg	0	0	0	0
Trimble	1	0	0	1
Tulon	1	0	0	0
Warren	9	7	2	3
Washington	2	4	1	4
Wayne	0	0	1	0
Whitley	0	2	0	4
Wolfe	3	0	2	1
Woodford	3	0	0	0
	142	112	205	281

At first glance this seems a most creditable exhibit, and is so in contrast with what is being done in other states, but, when compared with what remains to be done before our organization reaches the ideals set for it by our counselors and other leaders, which are entirely possible and practicable if each county society and member did the best that is in them, and, in doing so benefitted themselves even more than the organization itself, past and present conditions might be considered only as stepping stones to a far better and brighter future. Knowing the spirit that inspires these leaders, and that is in you, if it can be aroused to action, I appeal to every member of the organization in Kentucky for such cooperation with, and support of, the Council and other officers, and the JOURNAL, as will, year by year, bring us nearer to these ideals.

Very respectfully,

L. H. SOUTH.

ORIGINAL ARTICLES

TRACHOMA.*

By JOHN McMULLEN, M. D.,

PASSED ASSISTANT SURGEON U. S. PUBLIC

HEALTH AND MARINE HOSPITAL
SERVICE.

Trachoma is a contagious disease of the conjunctiva presenting granules or the so-called trachoma bodies, with more or less hypertrophy, chronic in its course, of unknown etiology, most resistant to treatment, prone to remissions and exacerbations and always followed by the stage of cicatrization. By reason of its communicability, chronicity of course and its often disastrous results, etc., trachoma is the most important of all the inflammatory diseases of the conjunctiva. In 1897 trachoma was classified by the Federal Govern-

ment as a dangerous contagious disease, and is now so certified under the Immigration Laws.

The disease is characterized by connective tissue hyperplasia, and proliferation of lymphoid cells. The follicles so formed tend to degenerate and become encapsulated by the newly formed connective tissue—newly formed blood vessels then penetrate these follicles. The result is a distension of these follicles with a certain amount of fluid—they push up through the conjunctiva, degenerate, break down, and we have the stage of extrusion which precedes and gradually causes the terminal condition we know as cicatricial eyelids—a condition which is caused by no other disease of the conjunctiva save trachoma.

The etiology of trachoma is still unknown. The so-called trachoma corpuscles or bodies (Halberstaedter von Prowaczek) have also been found in eyes free from any evidence of trachoma. They have also been found associated with gonococci (ophthalmia neonatorum) and also in the male and female urethra.

The return of Napoleon's soldiers to Europe from Egypt where they suffered extensively with a distressing form of ophthalmia, was thought to have been the means of disseminating trachoma, but the history of this disease would seem to be of more ancient origin and by some said to have been originally endemic in the Orient, from whence it was gradually brought to the Westward. We now know that trachoma is scattered throughout Europe. The disease prevails in Russia, Turkey, Italy, portions of Austria Hungary (Galicia) Finland, Holland, Greece and Ireland. A recent investigation, by passed Assistant Surgeon, T. Clark, of trachoma among the Indians on various reservations in Minnesota and also the miners of the iron ranges of that State, showed that trachoma was very prevalent among the former, and to some extent among the latter though to a much less extent.

Trachoma is certainly a contagious disease and the condition of the eyes of trachomatous patients, varying from merely defective vision to total blindness as a result of the disease, indicates that it is also dangerous, not to life, but certainly to the sense of sight by reason of its destructive effect upon the tissues of the eye—justifying the classification of this disease as "dangerous contagious".

Prior to 1897 trachoma was not so classified and undoubtedly many immigrants were landed here then suffering with this disease, and thus established foci of infection. The practice of evertng the eye-lids of all aliens now obtains at the various immigration stations. Experience shows that, in order to definitely ascertain whether or not trachoma

exists, it is necessary to inspect the retrotarsal fold by doubly everting the upper lid. The small glove buttoner is a very useful instrument in accomplishing this. Observers differ as to the commencement of trachoma. From my observation, during the past eight years in the medical examination of arriving aliens at New York and Baltimore, I am of the opinion that trachoma commences as an acute conjunctivitis. While this inflammatory condition may vary somewhat from the average acute conjunctivitis, it requires observation and treatment varying from several days to several weeks before a positive diagnosis can be made. This rule is followed in the medical examination of aliens and it is found that the ordinary catarrhal conjunctivitis will subside in a comparatively short time, while the trachomatous case will soon show the hypertrophy, and present the raspberry-like appearance so characteristic of acute trachoma. Also in old cases of trachoma, when exacerbation and relapses occur, the appearance is analogous to acute granulations and the true nature of the underlying trouble is only revealed upon the subsidence of the more acute symptoms.

Trachoma is essentially a chronic disease and the time from the stage of invasion to the terminal one of cicatrization, is usually one of years, quick cures are probably mistaken diagnoses. It is a common occurrence among arriving aliens to see large families where the parents and all the children are suffering from trachoma—including occasionally the babe in arms. The statement that the negro race is almost immune to trachoma is not borne out at Ellis Island, where a considerable number of negroes from the West Indies are annually found to be suffering from trachoma. One of the most marked and stubborn cases of trachoma that has been treated at Ellis Island Hospital was in a negro girl.

The diagnosis, prognosis, etc., of trachoma, is the most troublesome subject with which the medical examiner of aliens has to deal. The diagnosis of a well-marked case of trachoma presents no special difficulty to one at all familiar with this disease, but the borderland cases, those of long standing and quiescent at the time of examination or too acutely inflamed to classify are the difficult cases to decide. It must be remembered that when the diagnosis of trachoma is made in the case of an alien and he is so certified, he is also certified as having a dangerous contagious disease, which puts him within the provisions of the Immigration Law, thus making his deportation mandatory. This is a serious matter with the alien who has probably sold all his worldly goods to secure enough money to pay his way to America. It is therefore of the highest importance that

there be no mistake made by our medical officers in the diagnosis of this disease in immigrant aliens.

A mistake made in the diagnosis of this disease, by the general practitioner works no special hardship on the patient, but sometimes enables him to make a quick cure in his case of trachoma (1). As previously stated, the diagnosis of trachoma in the early or initial stage is difficult, if not impossible, in advance of some treatment. There is however an early thickening of the conjunctiva especially in the cul de sacs, which is already deeply congested, giving the appearance not unlike a raspberry. The ocular conjunctiva does not usually share in this intense congestion. The secretion at this stage of trachoma is watery or at most, muco purulent, and ordinary remedies have no effect. When, however, the more acute symptoms have somewhat subsided, granules are seen protruding through the hypertrophied conjunctiva, ptosis is present, and we have a case of trachoma, which will require treatment indefinitely. Follicular conjunctivitis resembles the granular form of trachoma, and is often difficult to differentiate from it. The follicles are arranged in rows, and present the appearance of small beads. Their distribution corresponds with the normal follicles of the conjunctiva. They cause very little trouble usually, and recover with no damage to the conjunctiva. A cure can usually be effected by expression with the Knapp forceps. The pavement-like epithelium of vernal catarrh, covered with a milky film, and characterized by excessive itching, burning and watering of the eyes, and coming on with the first warm days of Spring, will assist in the differential diagnosis.

Parinaud's conjunctivitis, somewhat rare, is said to simulate a severe trachoma, is ordinarily unilateral, effects the neighboring lymph glands and has marked constitutional symptoms.

It is most unfortunate that there are no microscopical findings to determine the diagnosis of this disease, as is the case in favus, etc., and we are yet compelled to rely upon the clinical evidence alone. We now see but few of the old and worst cases of the disease. "Egyptian ophthalmia" with its many complications compared with the number encountered some years ago among immigrants. This has resulted from the careful examination of all eyes upon arrival here and thereby causing the steamship companies to avoid embarking such cases as would result in deportations and fines,—especially the latter. It is stated that the steamship companies are rejecting in Europe for trachoma more than one hundred thousand applicants for passage each year. In spite of this there were twenty-five hundred aliens found to be suffering with

this disease, and were so certified, upon arrival during the fiscal year ended June 30th, 1911. There is, therefore, an accumulation of aliens in Europe who are not permitted to embark for this country, because of trachoma. Their friends and relatives who are already here, and are constantly arriving, are anxious to have these come also, and are making strenuous efforts to gain their admission even though it be to make the laws and regulations less strenuous in this respect. Trachoma is certainly a contagious disease, which is dangerous to the sense of sight, and imposes upon the victim an awful handicap. There should be no let up in its detection among arriving aliens and the deportation of those suffering with it. Unquestionably, this works hardships upon many of them, and sad cases are unfortunately not a few, but this is inevitable, and we should not permit this to work upon our sympathy to such an extent that we are blind to our duty to our own people. Because trachoma is already present in our country, is no argument in favor of increasing the amount of this inveterate and dangerous contagious disease. The plea is often made by relatives and friends that these unfortunate people be sent to our hospitals at their own expense, until cured, but they are usually not satisfied to remain there until a cure is apparently effected. In fact, it is difficult to say when a disease is actually eradicated which is so prone to relapse as is trachoma. The cases that can be counted as cured with reasonable certainty are those where the conjunctiva is entirely cicatricial, and presents a smooth glistening appearance. This terminal stage, however, is often effected only after years of treatment, and then there are the many troublesome sequelae which may make him a burden all the remainder of his life. One of the most difficult problems in connection with the certification of trachoma, under the Immigration Law, is to determine at what stage of the process of cicatrization to draw the line between contagious and non-contagious. While trachoma is excluded as a dangerous contagious disease under the law,—is not permitted to land—there seems to be comparatively little notice taken of it in the various states. By reason of the long duration of this disease, its resistance to treatment, etc., the method of dealing with those so afflicted, to prevent their spreading the infection is a perplexing problem. It is however, a responsibility which the states must finally undertake. It is peculiarly true of trachoma, that "an ounce of prevention, is worth a pound of cure." Trachoma should be declared conditionally quarantinable. Once a diagnosis is made of trachoma, the case should be put under treatment at home or in hospital. The patient should be informed of the nature and

the seriousness of his disease, and instructed as to the necessary precautions to take in order to prevent its spreading to others by means of towels, etc., and told that a cure will only be effected by his thoroughly co-operating with the physician. It should be made a reportable disease, and each case followed up closely for the purpose of instituting proper sanitary measures.

If an alien, in this country less than three years, has trachoma, which the examining physician is able to certify existed prior to his arrival here, such alien should be reported to the Federal authorities, with a view to deporting him to the country from whence he came. The schools should be carefully inspected and all eyelids everted in such manner that the retrotarsal fold is brought clearly into view. Those suffering from trachoma should be excluded from the schools. While general rules can be promulgated for the care and treatment of persons afflicted with trachoma and the prevention of its spread, these will necessarily vary to fit the conditions found in the community involved.

The operation of removing the tarsal cartilage of the upper lid with its overlying conjunctiva and retrotarsal fold, as outlined by Prof. Hieserath of Konigsburg, is now advocated in selected cases. It relieves to a great extent the distressing symptoms due to corneal involvement and hastens the terminal stage, according to its advocates. My experience with the results of this operation is limited, but it would seem that these cases should be seen a year or so after the operation to form a more intelligent opinion. Unfortunately there has been but little advance made in the medical treatment of trachoma.

ADDRESS OF WELCOME TO THE MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION, JUNE 4, 1912.

By Gov. WOODROW WILSON.
(OF NEW JERSEY).

Mr. President and members of the American Medical Association, ladies and gentlemen, I feel it a privilege, as representing the State of New Jersey, to welcome this great society to its session this year in Atlantic City.

A great many people come to Atlantic City on all sorts of errands, most of them not serious. (Laughter). The problems that Atlantic City is confronted by is that it is the refuge of the idle, and those who are idle are apt to adjourn the ordinary standards of their lives. (Laughter). But you are doubly welcome here, because you have not come as idlers but as those who study the more serious problems of our lives, both individually and nationally.

Atlantic City is used now to investigation. (Laughter). You have come as investigators, not to investigate Atlantic City, except for your intimate knowledge of the make-up, the physical make-up of all citizens of the community (laughter), and I feel in facing a great association like this that I am facing a body of men and women who have a particularly intimate connection with the life of the country, because you are very much more than physicians individually. You are very much more than the advisers of individuals with regard to the problems of health. You are the guardians of communities. You are the guardians of communities not only with regard to those general sanitary problems which are summed up under the head of sanitation and general hygiene, for example, but of a great many moral problems also. In our day the old story that the physical welfare of man is very closely knit with the moral is very true, and as man thinks so is he, a thing which comes very much nearer being a physical fact than is usually realized, because there is undoubtedly an air of morale in most of the problems that you have to deal with. At any rate, by way of preliminary determination and as counselors or individuals, you are the arbiters, to some degree, of the life of communities.

I have sometimes wished there might be some way of establishing an official connection between doctors and the State that has been found in the case of lawyers. Lawyers are officers of the court, and are subject to discipline as such. They hold in their hands the honor of obeying and carrying out the laws of the Commonwealth, and they are held amenable on that basis. It is on that basis that men are dealt with for contempt of court and lawyers are held to a code which has nothing to do with their knowledge of the law. Similarly, it seems to me, the doctor, by reason of the license he holds, is reputed to represent morality as well as the knowledge of the community. (Applause). And the most interesting part of the profession is this, that knowledge is not vital unless it goes hand in hand with honesty and sympathy. I believe you will agree with me that one of the things to be regretted in modern times is that we have been obliged to specialize our professions to so great a degree, because in proportion as the medical profession is specialized, for example, the old family physician disappears.

I remember going over in my memory a single year of my family life with my children when they were small and finding that I had called in consultation 13 different specialists. (Laughter). There was no ill luck in the 13, because it all came out very happily. But where I had summoned 13 specialists my father would have summoned 1 family physi-

cian. My father would not have got as good advice as I got, and yet I lived through it. (Laughter and applause). But every time he sent for his doctor he was sending for a personal friend. He was sending for a man who had his confidence in a peculiar degree. He was sending for a man who walked along the paths of life with him as a comrade and confident. There was something very vital, there was something very useful in that relationship, and although we have certainly yielded only to necessity, it is unfortunate that we should have been obliged to specialize so much as we have, and therefore it is necessary, it seems to me, if you will permit me to suggest it, that we re-generalize our sympathies. I remember saying once, when I was following out a certain occupation, that I understood the chief business of a university was to make young men as unlike their fathers as possible. I will hasten to explain that as I did on that occasion. I did not then, nor do I say that now, in disrespect to the fathers, but merely this: By the time a man was old enough to have a son in the university he became so immersed in a special occupation and narrowed to the point of a single calling, it was advisable that his son should be taken out of some place of vantage where he could see the world, instead of seeing a single individual, a single community, a single profession. I understood that to be the business of the university to re-generalize each generation of youngsters, show them the Nation, show them the great infinite variety of human interests, show them the map of the world, so that they would never forget, at any rate, their general geographic relations to the races of mankind. So, it seems to me, every profession, particularly a profession so absorbed as yours is, and bent upon investigations, must find it necessary to refresh its general sympathies by re-connecting itself with the wider questions of our modern life.

As an American I feel that the task of a statesman in our day is analogous to the task of the surgeon. There is a great deal that is necessary to be cut out of modern life (laughter), and yet we must be very careful not to injure any of the sound tissue in cutting it out, and the various processes of politics are not unlike the processes with which you are familiar. The preliminary agitations of a political campaign are a sort of prognosis (laughter) and the platforms are a sort of diagnosis, and then follows the critical part. (Laughter). Then you have to study your *materia medica*; then you have to propose a particular operation and determine exactly what you are going to do in following up your diagnosis to remove the disease, or, at any rate, to apply some tonic which will enable nature to assist herself. (Laughter).

The moral of that sort of thing is that the surgeon should know what he is about, and that rough and ready methods, methods of passion, methods of prejudice, are of all things the most dangerous. (Applause). They are the methods of the quack; they are the methods of the uneducated, the uninstructed, the unlicensed practitioner, and therefore I have a sort of sympathy with you. (Laughter). It is very much easier for you to get at the difficulty and the particular phenomenon with which you have to deal than it is for the men who are wandering abroad amidst the general phenomena of society; and yet, it seems to me, that you can be infinitely instrumental in assisting the statesmen, because there are a great many evidences and symptoms at this time of hysteria (laughter), and if you will only hurry home from this convention and calm your communities down we may be able to transact business. (Roars of laughter).

I am very glad to have you all at once in New Jersey, but you can not calm New Jersey down by merely sitting here in Atlantic City. It will be necessary for you to disperse to your homes and get to work on the people you know. I know a great many people whom I would like to get to work on (laughter) if I only knew the proper cure for hysteria, but never having, happily, felt the symptoms myself, I am unsympathetic about it. And yet, seriously, ladies and gentlemen, speaking of the problems of our life, they are all one. The thing I am particularly impatient with, ladies and gentlemen, is dividing our lives and our interests into sections and supposing you know nothing about anything, except one thing. The whole problem of modern society is infinitely complicated, just because it is variously specialized, and it should be our object to avoid the separation of interests; it should be our object to effect a union of purpose, to unite ourselves with one another, not as a body of competing interests, but a body of unified interests, moving forward to the common goal of general service. That, it seems to me, is the problem of all intelligent men in the United States and in the world at large. I can not do better, therefore, than to ask you in your modern occupation to harmonize the various parts of our whole life to one another, so that heat, hostility, and friction may be taken out and all the sweet and wholesome processes of life may be restored. (Long and prolonged applause.)

PELLAGRA.*

By N. W. Moore, Cynthiaana.

In presenting a paper to this society on pellagra, I sincerely realize that my knowledge of this subject is a very limited one indeed; however, in this respect, I feel that I am not alone; but, if I succeed in creating sufficient interest in this so-called new disease, (or at least new to this country) enabling us to so qualify ourselves as to be able to diagnose a case of pellagra when coming under our care, I shall be more than satisfied, for I am sure we are liable to be confronted with a case of this kind most any day. Furthermore, I fully believe that if there was a competent medical house to house inspection, that we would find one or more cases in every county in the State of Kentucky. It has already been estimated that our State contains at least 3,000 cases, and that Georgia has the enormous number of 50,000. Our insane institutions are being over-crowded with these patients. Over 4,000 cases are now confined in the insane asylums of our southern states. Cases have been reported from thirty-two states and the number is constantly on the increase. Is this not enough to arouse every conscientious physician to "be up and ready" to meet this enemy?

Last summer when I stood by the bedside of a severe case of pellagra in the Lexington asylum and saw the patient motionless, paralyzed, insensible, dead to all the senses of the living, insane, emaciated to a mere skeleton, half-closed eyes, protruding tongue, inability to swallow, even water, which she so gravely having to be fed with a stomach tube; inflamed, ulcerated, cracked, bleeding arms and legs as if she had recently been withdrawn from a fiery furnace, and an involuntary diarrhoea and urine which had baffled all treatment, I asked myself into what lower state or condition could a human being fall? And woe to the physician who could look on such a sight and not yearn to know more about this horrible disease; and then I imagined that instead of prolonging the lives of these poor afflicted mortals, as they were doing, how much more humane would it seem if we were permitted by law to chloroform them into a sleep that knows no awakening; but should there be such a law, who among us would be willing to take upon himself such a responsibility, knowing too well that a disease considered incurable to-day may be a curable one to-morrow?

A few weeks ago, I had another occasion to visit the asylum and inquired of Dr. Dunlap as to the final outcome of the fourteen cases which I saw last summer, and also of the twen-

*Read before the Pendleton County Medical Society.

ty-six cases which I did not see, and she replied that "nearly all had died during the fall and that the few remaining mild cases had improved during cold weather." No photographs of these patients could be obtained, as I was informed that none had been taken, nor had there been any post-mortems made owing to objections from friends and relatives.

Pellagra has been known in Italy for over two hundred years, but was not recognized in the United States until within the last four or five years, though, no doubt, the disease has existed in some of our southern states for many years.

DEFINITION.

Pellagra is a complex disease, characterized by three classes of symptoms: First, an erythema confined to those portions of the skin exposed to the action of heat and light. Second, a chronic inflammatory condition of the digestive passages, shown chiefly by obstinate diarrhoea. Third, a more or less severe lesion of the nervous system, terminating in insanity and paralysis. These various symptoms are at first insignificant and in a certain way periodic, that is, they begin or occur in spring or early autumn and diminish or disappear in winter. Later they become persistent, more and more severe, and finally terminate fatally.

ETIOLOGY.

The cause of pellagra is still clouded in mystery. A great many authors claim that it is produced by eating decomposed corn meal. There are others equally as prominent who absolutely deny this mode of infection, saying that "it is due to some other bacteria ferment." A few claim that it is due to a specific microorganism called "strepto-bacillus pellagra" or some protozoa infection, very similar to that of ergotism. Even cotton-seed oil, and the sand-fly have been accused of producing this disease. It is possible and I am inclined to this belief that food cereals, and especially decomposed seed or infected corn meal has a great deal to do with pellagra. One experimenter, Dr. Bass, of New Orleans, has succeeded in producing all the symptoms of pellagra in the chicken and horse by feeding decomposed corn. Among the predisposing causes may be mentioned deficient alimentation, and bad hygiene. In those parts of Italy where the disease is endemic or prevalent, the poorer classes, especially the peasantry, suffer extreme privation as to lodging and food. During a considerable portion of the year their chief food consists of a heavy, sour, indigestible bread made from more or less spoiled grain. A similar diet prevails in most all other European countries where pellagra is endemic. That privation alone is not

sufficient to cause pellagra, is shown by the fact that in Ireland, where extreme poverty has at times prevailed, pellagra is unknown.

In an investigation throughout the entire state of Tennessee, ninety-seven per cent. of cases had used corn meal in some form or other, while the greater number of the patients were surrounded by poverty and bad hygiene, a few cases appeared in the well-to-do families with excellent hygienic surroundings. In this respect, we have an illustration in the death of the wife of a prominent physician of Lexington, Ky. It has been said she contracted the disease while visiting in the south. Females are more susceptible to the disease, at least seventy-five per cent. more than males. Infants at the breast have been known to contract the disease although it has not been proven that the mother's milk was the source of infection.

Physicians and nurses who have attended great numbers of pellagra cases have never been known to contract the disease, nor has there been one authentic case where contagion has taken place by coming in contact with the patient.

Is there a racial immunity to pellagra? Dr. Bernard Wolf, of Atlanta, Ga., claims that the Jews are immune. Out of thousands of cases he had seen within the last few years not a single case occurred in the Hebrews. It is a well known fact that the Jews are not eaters of corn bread, nor do they use other articles of diet that are under suspicion. On the other hand, the negro race does not possess any marked immunity.

PATHOLOGY.

Contrary to expectations, post-mortems have thrown no light on the cause of this disease, although there has been found fatty and atrophic changes in the heart muscles, brown atrophy and fatty degeneration of the liver, cirrhosis of the kidney, and intestinal ulceration. The most frequent and prominent of these morbid conditions are symmetrical sclerosis of the posterior columns of the cord. In quite a number of cases, exostosis of the vertebra has been found. Pressure from these bony growths upon the roots of the spinal nerves no doubt produce the excruciating pains in the limbs of which so many of these patients complain, while sclerosis of the posterior columns of the spinal cord may account for the symmetrical eruption which occurs in all typical cases. This discoloration also shows in the internal organs.

SYMPTOMS.

The symptoms being so numerous and so complex we shall only attempt to mention a few of the more important ones and for convenience, we have divided them into three

classes: First, the digestive symptoms; second, the skin manifestations, and third, the nervous symptoms.

Digestive symptoms are common in pellagra, mild at first, they become more and more marked, and consist of dyspepsia, heat and burning in the stomach and oesophagus, loss of appetite, and an uncontrollable thirst, cracking and fissuring of the lips, a fungus condition of the gums, a reddened aphthous condition of the buccal mucous membrane, and a dry cracked condition of the tongue which is enlarged and devoid of membrane, the so-called "bald tongue." In severe cases saliva flows continuously from the mouth, and the salivary glands are enlarged, resembling very much the appearance of mercurial salivation. The digestive disorders are sooner or later accompanied by diarrhoea which usually precedes the eruption by weeks or months. The stools vary in number from three to thirty in twenty-four hours, and frequently contain blood. The diarrhoea is at its maximum of intensity when the eruption is at its maximum and gradually improves after June or July.

THE SKIN ERUPTIONS.

This appears first in the early spring months and is one of the most characteristic features of the disease, as it is usually an index to the severity of the infection. The eruption commences as a severe sunburn on the back of the hands and neck and in those who go barefooted it may occur on the feet and legs; as the disease progresses it may be seen on the face and on those parts of the body protected by the clothing such as the knees and elbows. Rarely does it occur on the palms and planter surfaces. The erythema is a bright redness of the skin accompanied by itching and burning sensations. There may be papules, vesicles and fissures and when desquamation takes place the skin takes on that typical "goose flesh" appearance. Those of you who were fortunate enough to see those cases confined in the asylum last summer will remember how vividly this condition was demonstrated. After a time the skin desquamates and when the redness fades, the skin assumes a characteristic light liver or chocolate color, which if once seen can not be mistaken for any other skin disease. In mild cases the skin remains healthy until the following spring when the eruption reappears and follows the same course as it did the previous year, except that it is apt to be more severe. In some cases, the eruption remains throughout the winter, but it is not so severe as in the spring.

NERVOUS SYMPTOMS.

Mental depression goes hand in hand with the erythema and diarrhoea and varies from

a mild case of "blues" to severe melancholia. As one author expresses it "The patients seem to have forgotten how to laugh." The poor sufferers imagine they have not a friend on earth; that even their own children or parents dislike them and are devising some means to do them an injury; and under such delusions may commit suicide. Vertigo, tremors, partial paralysis, staggering gait, sometimes resembling locomotor ataxia symptoms, but in pellagra we have at first an exaggerated reflex. As the nervous centers become more and more affected we have almost complete paralysis. In the final stage of this disease the patient falls into what is called "typhoid pellagra" with extreme emaciation, fever, unconsciousness, involuntary defecation and urine, sordies on the teeth, inability to swallow food or water, and unless fed by the stomach tube or rectal alimentation, starvation ends the scene.

DIAGNOSIS.

Some authors claim that it is impossible to make a diagnosis unless we have the skin eruption. In pronounced cases, a diagnosis can generally be made from the triad of skin eruption, gastro-intestinal and nervous symptoms. From a thorough perusal of the history of this mysterious disease I am inclined to believe that we have very mild types—so mild that it is frequently overlooked, e. g., cases without any manifestations of skin lesions. It is probable that every physician in this section of the country has encountered just such cases and have treated them for some other malady, in a suggestive way. "Spring fever," or to use Hood's expression "that tired feeling" may possibly come under this category.

PROGNOSIS.

In Italy the mortality does not exceed ten per cent. but in the United States the mortality has been very high, thirty-five to sixty-five per cent. This high death rate is probably due to the fact that only the well-marked or severe cases have been recognized in this country. In Louisiana and Mississippi, where the mild type exists the mortality does not exceed that of Italy. If a recurrence of the symptoms do not take place within twelve months or longer there is little danger of the return of the disease, provided impure food and bad surroundings have been avoided during the time. Whenever the "knee-jerks" are exaggerated as they are in all moderate and early cases, indicating irritative nerve tissue, it is possible for the patient to recover; on the other hand, if the reflexes are entirely abolished the prognosis is not very promising. All of the "pellagra typhosus" cases die, some cases within a year from the onset, while others may live for many years. The usual duration is about three years.

TREATMENT.

Up to a few years ago, pellagra, like tuberculosis, was considered incurable. This opinion still holds good when applied to the far-advanced cases, but it can not be sustained when it comes to the treatment of the milder cases, even a few of the severe cases have been reported as cured. Arsenic in some form or others seems to be the only drug worth mentioning, although quinine, iron and calcium sulphide are highly recommended by some. The administration of salvarsan, as well as that of caedylate of sodium and Fowler's solution have brought about many cures. This alone is sufficient proof to me that pellagra is a germ infection; if not why such brilliant results from arsenic which we know to be so fatal to all kinds of germs? Improve the hygienic conditions, and surroundings, pure air and good nutritious food. Keep the patient out of the sunlight and have the room darkened and cool; if possible make the room cool with refrigerators, as nothing affects pellagra so favorably as cold. This fact is substantiated from the great improvement during the cold season. A certain physician in Georgia, whose name I cannot recall, has been sending some of his patients to Colorado and reports wonderful improvement so long as they remained in that climate. Our extreme northern states, or Canada, might prove more beneficial. In the treatment of the nervous symptoms, I should think that the bromides would be contraindicated owing to the inflammatory condition of the oesophagus, stomach, and intestines. Trional, sulphonal or chloritone would probably prove to be the best remedy for insomnia, etc.

The skin lesions in the cases at Lexington were more benefitted by the application of plain or carbolized vaseline, than any other preparation. Ichthyol, which is so valuable in many skin diseases, has not to my knowledge been mentioned in the local treatment of this disease. The diarrhoea has so far baffled all treatment. A rigid milk diet has been the only palliative remedy. Some of our best men claim that we have no treatment for pellagra. It is the old, old story of skepticism in our profession.

In conclusion will say that without any intention of being an alarmist, that as this disease is spreading so rapidly, and the mortality is becoming so great, that unless our State Boards of Health, backed by Rockefeller's million, succeed in putting a check to it, we may have an epidemic much more severe than that of Italy, that will sweep this country with fearful results.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By J. E. PACE, Scottsville.

The health officer has several problems to deal with, but the greatest problem is the protection of the health of the people. And strange as it may seem, this protection must often be given over the protest of those in the greatest need of it.

Take for example, an epidemic of smallpox. People become offended because we quarantine their relatives and friends who have been exposed but have not developed the disease. They declare the disease is not smallpox because some old person said it was not like folks had forty years ago. And about this time some "Hay Seed" Doctor steps in and says that from what "Aunt Peggy" told him, he is certain it is a case of chicken pox, bold hives or Cuban itch, or some form of eczema. This sets the entire community against the health officer. Dr. Hayseed is petted into the belief that he is quite a deliverer of his people, and if no more cases develop, Dr. H's practice is certain to increase while the health officer receives the scoffs of those who have suffered from vaccination and isolation. But it sometimes happens that about the time Dr. Hayseed is held up as a Moses, some other man or woman is smitten and this time the symptoms are more pronounced. The headache and excruciating backache cause some little fears to arise, the eruption appears and fever subsides and Aunt Peggy who had smallpox years ago, says this is more like she and her brothers had when John died. It is now easier to persuade people to be vaccinated. Dr. Hayseed usually refuses to visit the patient excuses himself on the grounds that the health officer is paid to settle such questions. If the disease is soon controlled, all becomes quiet and very little is said of the trouble. But if other cases develop, the people, as a unit condemn the health officer for not at once controlling the disease.

And what has been said of smallpox is also true of the other contagious diseases. The problem in such epidemics is before us. The difficulties in carrying out our plans must be surmounted even though the way seems hazardous. We must act promptly and without fear of public sentiment. However, we should at the same time, use judgment and never fail to be courteous to those who oppose our plans. And by degrees we educate the people to care more for protection of health and life. But the problem of protection of public health is not solved by stopping with epidemics. We must look for the unsanitary

*Read before the School for Health Officers, Louisville, July 8, 9, 10, 1912.

places in the streets and other public highways and especially in our water supplies. The streets of our towns and villages should be kept drained thoroughly and perfectly clean. The old adage—"Cleanliness is next to Godliness" should be impressed upon every citizen of our Commonwealth. It should be taught from every pulpit and school room in the land, and the mothers and fathers should impress it on every child from the cradle to adult life.

The recent law rendering obsolete the public drinking cup is a great stride in the right direction, and we as health officers should see that the law is observed. The common custom of permitting tuberculous patients to expectorate in public places as court houses, churches and cars should be thoroughly investigated in every county and every possible effort used to prevent the same.

We are glad to note that the physicians throughout the country are educating the people to use proper precaution while nursing tuberculous patients. And shall we hope that in the next fifty years this dreaded disease may be banished from the land?

And yet, typhoid prevails throughout the country. The solution to complete eradication of this disease is perfect sanitary conditions. The water supply often furnishes the germs by multiplied thousands. Proper protection should be given along this line. And yet, we find people become offended if we ask them to empty and clean an old cistern or well. Again, if we enter a house unprotected by screens, we sometimes notice the inmates appear chagrined if we attempt to explain how the common house fly is the carrier of disease producing germs. We all know that this mischievous little pest is the cause of many deaths each year, and we should try to prohibit the breeding by seeing that large heaps of manure and other filth is not permitted to accumulate around livery stables and other public and private places.

Ventilation is another problem that should interest us all. The people should be taught that pure air is one of nature's means of preventing disease. Yet, on entering many of the stores in the towns and cities, we notice the merchant and his assistants looking feeble—not from overwork as they believe, but from poor ventilation. In the homes of many good, prosperous people, we find the windows and doors closed even in hot weather, from the erroneous idea that night air is dangerous.

Public education along these sanitary lines is essential to the well-being of our people. But it is a problem fraught with many difficulties. The public press reaches almost every home, but if we attempt to educate the people in that way, we arouse criticism even from our own profession. It is claimed that

we use the press to advertise ourselves instead of attempting to aid the public.

By asking teachers, ministers and all physicians to cooperate with us in our struggle in the interest of humanity, we may accomplish much. It would be better if the health officer in each county could give his entire time in the interest of sanitation. But the remuneration in most all counties is inadequate to supply such necessary duties.

NEWS ITEMS AND COMMENTS

BOONE—Dr. Richmond, formerly of Tennessee, has located at Verona, this county.

Dr. Perkins, who went to New Mexico a few months ago in quest of health, we are sorry to report, is no better.

Dr. Rodgers, a recent graduate of Louisville, has, we understand, located at Grant.

JEFFERSON—In excellent health and spirits, Dr. Ap Morgan Vance arrived in Louisville several days ago from Frankfort, Michigan, where he has been since August 1st. Dr. Vance's appearance at once put a quietus to the reports of his serious illness of a few days since, which had caused much uneasiness among his friends here.

Dr. Anna Lawrence left last month for Boston, Mass., to remain several weeks.

WEBSTER—Dr. Joseph A. Goodson, of Dixon, who was appointed superintendent of the Eastern Kentucky Hospital for the Insane, on August 8, in Lexington, has arrived to visit his sister, Mrs. Warren L. Reynolds.

CARROLL—Dr. Lillian H. South, State Bacteriologist, gave an illustrated lecture on Hookworm and other diseases before the Teachers' Institute and people at Carrollton, on the evening of August 20th. Dr. South has acquired an enviable reputation as a public speaker and teacher and her lectures are given the closest attention and create a healthy, effective sentiment.

Sodium in Origin of Gout.—Cohn presents arguments and relates experimental and clinical experiences which he thinks justify the conclusion that gout is the result of derangement of the metabolism of sodium and potassium and suggest that abstinence from sodium is an important therapeutic measure. Potassium, on the other hand, counteracts the injurious influence of the sodium and should be given systematically. He has taken the potassium salts himself and given them to patients for weeks and months at a time and never witnessed any injurious by-effects, while they displayed a marked influence in attenuating the gouty process.

COUNTY SOCIETY REPORTS

Barren—The Barren County Medical Society met in Dr. Bott's office, Glasgow, August 13, 1912. Meeting called to order by S. J. Smock, President; T. F. Miller appointed secretary pro tem.

C. C. Howard presented the following case: Male, white, age 40 years, laborer. Three weeks ago began to have colicky pains in bowels, first suppression of urine, later increased flow. Some history of similar attacks six years before. On examination tenderness over right ureter, extending over entire course. No prostatic, nor bladder symptoms. No temperature. X-ray revealed a small stone in each ureter. Gave urotropine, and diuretic. Later infusion of digitalis was given. A mild cystitis developed, with chills and fever. At present urine is normal and patient is doing well. Skiagraphs were exhibited. The interesting point was the almost complete anuria which was explained by the pressure of stones in both ureters, although no pain was felt in the left side.

C. C. Turner presented the following case: Boy 16 years old. Two months ago had sunstroke. Since that time has had oscillations of the eyeballs with twitching of the face, and pain starting in the testicles and radiating through the abdomen. Case discussed and treatment suggested.

Applications for membership were presented from Drs. R. P. E. Starr and C. C. Howard. The same were referred to the Board of Censors.

After arranging for the program for our next regular meeting, the society adjourned to meet next, September 10th, 1912

T. T. MILLER, Secretary pro tem.

Kentucky Valley—The Kentucky Valley Medical Association convened at Torrent, Ky., in its Thirty-second Session on June 25th, 1912.

The morning session was called to order by the President, Dr. W. H. Hobbs, at 10:30 A. M.

I. A. Shirley, of Winchester, gave the welcome address, which was responded to by **Thomas C. Holloway**, of Lexington.

The Secretary read the minutes of the 1911 session which was approved by the society.

W. H. Hobbs, of Rogers, delivered the President's annual address.

Woolfolk Barrow, of Lexington, **J. E. Williams**, of Fineastle, **R. R. Johnson**, of Tallega, and **W. F. Boggess**, of Louisville, were elected members of the Association.

Lillian H. South, State Bacteriologist, of Bowling Green, was elected an honorary member.

The following doctors were in attendance: L. Knox, W. F. Boggess, Thomas C. Holloway, D. H. McKinley, Isaac Brown, Woolfolk Barrow, I. A. Shirley, I. W. Johnson, R. R. Johnson, B. F. VanMeter, J. W. Pryor, W. H. Hobbs, J. E. Lemming, L. H. South, Dunning S. Wilson, John L. Cox, J. H. Evans, J. E. Williams, and Drs. Driver and Congleton.

The first paper of the session was read by **D. H. McKinley**, of Winchester, subject "New Therapy of Syphilis." This paper was discussed by Drs. VanMeter, South, Shirley, Boggess, Pryor, Johnson, Holloway, Knox, Driver, Hobbs and Evans. Discussion was closed by the essayist.

The society adjourned until 1:00 P. M.

The afternoon session convened at 1:00 P. M.

Woolfolk Barrow read a very interesting paper on "Surgical Conditions of the Upper Right Quadrant of the Abdomen." Discussion by Drs. South, VanMeter, Holloway, Hobbs and Evans, closed by Dr. Barrow.

Isaac Brown, of Winchester, read a splendid paper on "Antitoxine in Diphtheria and Membranous Croup." Discussed by Drs. Johnson and South. Closed by the essayist.

J. W. Pryor, of Lexington, read a very excellent paper on "Eugenics," which was discussed by Drs. VanMeter, Boggess and Johnson.

R. R. Johnson, of Tallega, read a paper on "Diarrhea of Infancy and Childhood." Discussed by Drs. Boggess, Hobbs, Johnson, South and Driver, and discussion was closed by the essayist.

W. F. Boggess, of Louisville, read a very instructive paper on "Valvular Heart Diseases."

The society adjourned to meet at 7:30 P. M.

The night session was opened by J. W. Pryor acting as chairman.

I. A. Shirley, of Winchester, lecturer for the Rockefeller Institute, gave a splendid illustrated lecture on "Hookworm Diseases."

Lillian H. South, State Bacteriologist, gave a very instructive and entertaining illustrated lecture on the bacteriology relative to preventable diseases.

Hon. James Mott McDaniel, of Beattyville, made an eloquent and entertaining speech on the "Hookworm as Seen by the Layman."

The session was closed by an illustrated lecture by **Dunning S. Wilson**, of Louisville, who is Director of the Jefferson County Sanitarium for the treatment of tuberculosis.

The following officers were elected for the ensuing year: I. W. Johnson, Stanton, President; L. Knox, Bowen, Vice President; J. H. Evans, Beattyville, Secretary.

The society adjourned to meet at Torrent, 1913, the exact date to be fixed by the officers.

J. H. EVANS, Secretary.

W. H. HOBBS, President.

Muldraugh Hill—Meeting called to order at 10:30 A. M., August 9th, 1912, in the City Hall, by Vice President Willmoth; about thirty members being present.

D. O. Hancock, of Henderson, honored the society with his presence.

Dues being paid and the reading of the minutes passed, **C. Z. Aud** made a motion that the Secretary write to the doctors of Grayson coun-

ty to induce them to take a more active interest in the society. Carried.

The election of a President was next in order; D. C. Donan's name was presented to the society and he was unanimously elected to that office.

After the President had assumed his duties Dr. Hancock was conducted to the rostrum as a guest of honor. He thanked the members for their courtesy in a few happy remarks.

SCIENTIFIC PROGRAM.

A. D. Willmoth reported a case of stricture of the oesophagus caused by ulceration following typhoid fever. The patient was entirely relieved by gastrostomy with retrograde dilatation at first, later by dilatation per os. The speaker emphasized the importance of watching our typhoid cases and those showing difficulty in swallowing during convalescence should be taken in hand before the stricture has had time to contract to such a degree as in this case.

J. H. Ridgway read a paper on "Kidney Infection," with report of cases.

Wm. H. Wathen spoke to the point of "Tuberculosis of the Kidney and Bladder," showed the ease of making a diagnosis; said that cases were always descending infections, usually unilateral at first, and due to hemogenous infection; a painstaking examination should be made and sufficiency of other kidney tested. In cases where diagnosis is positive, nephrectomy should be done at an early date, but bladder irritation tends to persist.

B. F. Zimmerman spoke of the frequency of infections of the kidney, usually due to colon bacillus. Keep up active elimination; urinary antiseptics. One should not make the mistake of treating the bladder when kidney is at fault. Make a cystoscopic examination and catheterize the ureters. Don't, however, use catheter in ureter in old bladder infections, as you might start an ascending infection of the kidney. Irrigate pelvis of kidney with ureteral catheter, and follow by injection of nitrate of silver or argyrol. Obtain urinary specimens in women by catheter.

Curran Pope spoke of infection of the kidney in cases of myelitis. Had no faith in stock vaccines. Thought there were many strains of colon bacilli. One should use autozenous vaccines, usually mixed, controlling cases by repeated examinations. Use mixed vaccine of all organisms present. High frequency current will produce an active hyperemia that will assist Nature in ridding the system of infection. One must beware of giving vaccines too frequently. Has cleared up cases even in ataxies.

Bernard Asman spoke of colon infection of the bladder and the source of supply. Due to lesions in anal wall that travel to bladder by means of lymphatics and blood. Therefore, a rectal examination should be made in these infections.

W. C. Dugan spoke of Dr. Willmoth's case;

thought these cases were very rare. These cases are very difficult; hard to reach oesophagus through stomach; typhoid strictures don't open up as a rule. Reported cases. Speaking of Dr. Ridgway's case, took exception to Dr. Wathen, in that tubercle bacilli were not found unless fluid was injected into guinea pigs.

E. W. Montgomery reported an interesting case of infection of bones of the leg. Reported to know if case would entirely recover or have some shortening.

D. O. Hancock reported a case of pregnancy complicated with ascites, with repeated tapplings, drawing off large quantities of fluid. Labor followed last tapping. Mother delivered with forceps of living child.

A. D. Willmoth and **W. C. Dugan** in discussion of Dr. Montgomery's case agreed that no shortening would occur. Dr. Dugan said there was no danger of shortening on removal of shaft of bone, as growth occurs from the epiphysis.

The society adjourned for dinner at 12:00 M., and reassembled at 1:00 P. M.

Curran Pope delivered an address on "Psychoanalysis as a Method of Treatment," in his usual incomparable manner.

On motion of **A. D. Willmoth**, discussion of all papers was deferred to the end, in order that the members who had to leave early might hear as many of the papers as possible.

H. D. Rodman being absent, his paper was passed.

D. O. Hancock, of Henderson, then addressed the society on the progress the State Society was making, its connection with the State Board of Health, its position in regard to legislative enactment of laws for the benefit of the health of the people, the prevention of disease and the eradication of undesirable charlatans and quacks. He spoke also of the necessity for an uniform program for State and County Societies.

D. O. Hancock's remarks were enthusiastically received, and the members felt honored that he should have been there to address them.

G. G. Thornton read a paper on "Stomach Troubles," and their management by the general practitioner.

W. H. Wathen, in discussing Dr. Thornton's paper, said that medical text-books require to be entirely lost sight of and the subject discussed from a rational standpoint. Spoke of the disease of the blood-vessels, kidneys and abdominal organs causing stomach trouble, and related illustrative cases; gall-stones, appendicitis, pelvic disorders, ulcers (duodenal). Shows the surgical aspect of these conditions.

Curran Pope, referring to Dr. Hancock's address, spoke of the necessity of the State officers regulating the dates of meetings of the district societies, to get dates that do not conflict.

Regarding Dr. Thornton's paper, disagreed with Dr. Wathen as to the surgical aspect of these cases. Digestion is not only a question of

secretion, but also a question of dynamics. Thought much relief is to be had from mechanical appliances in cases of splanchnoptosis. Relief due to improved circulation and better position. Use a tube instead of emesis to clean out the stomach. He objected to the indiscriminate use of the ternas hysteria and neurasthenia, and suggested the words hysteroid and neurosthenoid in their stead. He advocated the bismuth meal and X-ray in mopping out the stomach in cases of ptosis.

G. C. Hall spoke of the incidence of refractive errors in cases with digestive disabilities, especially those doing much near work and getting very little exercise. He cited several cases and referred the members to a perusal of Gould's Biographic Clinics.

Bernard Asman called the attention of the society to the occurrence of hemorrhoids in cases of digestive disturbances, and cited cases where relief had followed the surgical correction of this condition.

J. L. Atkinson referred to the diverse causes for these conditions and the difficulties in their proper way to eat and regulate their diet. He thought the surgical aspect of these cases was a late development, due to neglect or improper attention in the early stages.

D. O. Hancock told of the experience of the Henderson County Society and the benefit to the members from papers dealing with this subject in the form of a symposium.

G. G. Thornton, in closing, thanked the members for their discussion, and related a number of such cases. He did not think the stomach tube applicable in all cases.

Bernard Asman read a paper on ano-rectal abscess in its relation to fistula. At the conclusion of the paper he exhibited drawings showing diagrammatically the different varieties of abscess.

W. T. Nichols asked to be excused from reading his paper, as he had not had sufficient time to prepare it. He was excused under promise to read the paper at the December meeting.

B. F. Zimmerman delivered an address on the Treatment of Uterine Displacements.

This concluded the program and the various papers were now open for discussion.

W. H. Wathen opened the discussion. Said that simple cases of version or flexion, without adnexal disease, require no treatment. Pessaries should no longer be used, but they were at one time a necessary evil. He discussed the evolution of the present day conception and handling of these cases. Thought it better to open the abdomen in order to see all the pathology. Kelly's suspension operation is a suitable operation where the child bearing period is passed or of no moment. Finally discussed cases where pelvic floor is diseased. Cystocele is the hardest of all to cure. Described his technique in such cases. Thought some cases past child-bearing period best relieved by taking out uterus per vagina.

J. L. Atkinson doubted if displacements were ever without symptoms. In some cases these are bearable and the woman suffers rather than submit to a surgical operation. Thought the pessary still had a place in the treatment of these cases uncomplicated by large uterus, or disease of the pelvic floor. The field is narrow, but they can be used if proper instructions are given patients. Thought surgical treatment often disappointing.

A. D. Willmoth discussed the varieties of these conditions. One must consider that these cases are not surgical emergencies but elective operations, and one is severely criticised for a death or failure. Thought pessaries still had a place but they must fit. Considered the fact, also, that operations sometimes fail. One should try to see the case from the viewpoint of the patient. He discussed the various round ligament operations, and thought in old women it was best to do an hysterectomy.

G. G. Thornton said he had had absolute failure from the use of pessaries, and had long since discarded them.

Following this, a general informal discussion of the various papers ensued, which kept up till nearly train time, when the meeting adjourned to meet again in December.

The close of this meeting finds the society in a prosperous condition, with a steadily growing membership and a constantly increasing interest in the meetings.

One of the finest features of the sessions is the heartiness and good will with which every one enters into the discussion, and the entire absence of any friction or personal feeling.

We bespeak for our new President a continuation of the good will and prosperity that now reigns in the society, and know he will endeavor in every way to still further advance its interests.

GALYORD C. HALL, Secretary.

Duodenal Ulcer.—Dietrich states that evidences of gastric ulcer and of hemorrhagic erosions were found each in 1.1 per cent. and of duodenal ulcer in 0.4 per cent. of 8,538 necropsies at the Hamburg hospital, 1908-1911. In twenty-four cases the duodenal ulcer was single and in ten multiple; in four there was an associated gastric ulcer and in two hemorrhagic erosions in the stomach. In none of the cases was there a history of an extensive burn, but in no less than eight of twenty-six cases the duodenal ulcer followed an operation in which the omentum or mesentery had been ligated. A thrombus had evidently formed and worked its way backward against the current, and injured the duodenal lining where it finally lodged. He summarizes these eight cases, emphasizing the rapid progress of the ulceration in these conditions and the usual early erosion of an artery that follows.



Young D. H. Hume

CAT.

PRESIDENT KENTUCKY STATE MEDICAL ASSOCIATION. 1912

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ORIGINAL ARTICLES

PITUITARY GLAND.

(A PHARMACOLOGICAL CONSIDERATION)

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EFFECTS ON THE CIRCULATORY SYSTEM.

Introductory.—In 1895 Oliver and Schafer¹ found that the pituitary gland caused a rise in blood pressure. The entire gland was used in their experiments. In their published report they concluded that it was not as efficient as suprarenal gland with which they had been working during the previous year. Howell² demonstrated that only the infundibular portion of the gland possessed this pressor property. This was confirmed the following year by Schafer and Vincent³ and since accepted by all investigators. Halliburton, Candler and Sikes⁴ established by their work in 1909 that the effects that had been obtained in the use of the glands of lower animals held good in the human gland also.

Local Action.—No appreciable effect is obtained when applied to the unbroken skin. When used on denuded skin surface or on mucous membrane the vessels are promptly contracted resulting in an ischemic condition. The sensation of the field thus treated becomes obtunded to a degree, not on account of any influence on the sensory nerve endings *per se*, but merely as a direct result of deprivation of normal blood supply. Injected subcutaneously, the vessels with which it comes immediately in contact are powerfully contracted rendering the area almost bloodless. The possibility of necrosis and death of tis-

sue, when used in concentrated strength and large quantities in this manner, must be borne in mind though this likelihood is less than in the use of supra renal gland. In fact, it may be stated here that the effects of pituitary throughout the circulatory system are less spectacular though more prolonged than suprarenal.

Internally.—The heart is made to contract less frequently and the force of its contractions augmented. The systole is more complete and in the exposed heart there is no difficulty in noting the paler color of the muscle; the organ also becomes smaller, a result that can be accurately determined by the oncometer. There has been some dispute as to the cause of this slowing of the heart action. Liven⁵ and Garnier and Thonon⁶ claiming it due to stimulation of the cardiac-inhibitory center, while Howell and de Cyon argue that it exerts a direct influence on the cardiac muscle. Wiggers⁷ rides with the hounds and runs with the hare in claiming that when the heart is slowed synchronously with the increased pressure it is due to stimulation of the vagus center and that when it appears late it is due to direct action. Both camps of disputants have missed the chief factor viz: *the tremendously increased peripheral resistance*. It is a fundamental law that an increase of pressure produces a corresponding infrequency of cardiac contractions when kept within reasonable limitations. It requires more power to drive the blood through blood vessels that are contracted and if the heart is normal it rises to the emergency, contracting more forcibly but less frequently, the slowing bearing an inverse ratio to the increased power. If the slowing were due to central action then vago-

tomy would absolutely prevent it. Likewise, the use of atropine prior to the use of pituitary would anticipate the infrequency of contractions. But, both experimentally and clinically, pituitary slows the heart after the administration of atropine and section of the vagi. It will also be noted that the slowing is concomitant with the rise in pressure. While the question of the presence of more than one active principle in pituitary affecting the heart, one pressor the other depressor, has been much mooted nothing convincing has been adduced and the constrictor influence remains the greatest factor, at least, in the production of a slow heart.

The *Blood Vessels* are promptly and powerfully contracted. The caliber of vessels may be lessened by direct influence of a drug on the vaso motor nerves or, by affecting the muscles of the vessel walls, and finally by its influence on the vaso motor centers. Which of these three is involved in the case of pituitary action? The blood vessels will contract after the destruction of the brain and cord. Pith a frog, inject pituitary extract and on perfusion it will be found that the flow of fluid through its vessels is much less than before pituitary was injected. If a section of a vessel be removed cutting off all its nerve supply it will still contract when perfused with a solution of pituitary extract. That the contraction caused by pituitary is due to its influence on the musculature is, then, a demonstrable fact. The greatest effect is observed on the smaller vessels as these possess a relatively greater thickness and hence a relatively greater power of contraction than the great arteries of the body. Another interesting question is, does pituitary act on all vessels alike? This can be determined by placing segments of vessels in Ringer's solution connected according to the method of Meyer. The drug is then added to the solution. The femoral, carotid, mesenteric and coronary all contract. With the renal artery, however, there is a relaxation—that is, there is a dilatation in the intact renal vessels; when the vessels are intact the kidney increases in size and the venous outflow from the organ is much increased. The coronary and the renal arteries are affected directly opposite from the result secured when supra renal gland is used, since the latter dilates the coronary and contracts the renal vessels. We have not been able to determine whether the cerebral vessels are affected one way or the other and a careful survey of the literature brings no information to the surface on this point. The same is true of the pulmonary vessels. The arteries distributed to the uterine are contracted independent of the striking action on the uterine muscle to be noted later.

The *Blood pressure curve* is a characteristic

one. There is a slight fall observed immediately after injection, followed in from thirty to sixty seconds by a decided rise. The rise is not so rapid as in the case of suprarenal gland but the maintenance of that rise is much more prolonged. The effects persist, generally, from one to two hours. Bell⁸ reports a case under the care of his colleague, Jeans, where the pressure was sustained for twelve hours. He believes that a better effect on pressure is noted when the animal is in shock than if in a normal condition. In his operative work he claims to have verified this on his patients repeatedly and while he does not minimize the good offices of normal saline, he thinks that its function is to maintain the improvement produced primarily by pituitary. In shock there is usually a vasomotor paralysis and normal saline can not possibly relieve this.

Effects of Repeated Dosage.—Attention has already been called to the initial fall of pressure after the first injection. Each subsequent injection produces less and less effect until the preliminary apparent depressor effect may be the only response. This does not seem to be the result of paralysis of the muscle fibre but to be a progressive loss of responsiveness to the agent. Schafer and Vincent⁹ concluded from their experiments that the infundibular portion of the gland contained two constituents—one raising the blood pressure and the other lowering it. The pressor principle being insoluble in alcohol and ether while the depressor principle is soluble in either. They argue that the action of the pressor principle is prolonged while that of the depressor is evanescent. Bell and Hick showed that pituitary increased the calcium content of the blood. There are some reports in the literature that tend to show that pituitary extract, like suprarenal, causes atheromatous changes when long continued. These are, as yet, too meager to base any positive statements thereon and we have not had the opportunity to make any personal observations in our laboratory experiments.

THE GENITO-URINARY SYSTEM.

Effects on Kidney Function.—Schafer and Magnus¹⁰ in 1901 found a hormone in pituitary extract which affects the kidney function by increasing the urinary output. This was an addition to our knowledge which should, probably, have been anticipated. They learned that there was a renal congestion following intravenous injection of the extract and finding a close relationship between this congestion and the general rise in blood pressure, a conclusion that the diuresis was due to circulatory changes was not unwarranted. The increase in urine is a fairly constant one and the increase in size of the kidney is rather

prompt. Three explanations could be offered for this action: (a) That the extract dilates the renal vessels by selective action. (b) That the general rise in blood pressure passively overcomes whatever constrictor action there may be on the renal vessels. (c) That there is a direct influence on the cellular structure. Schafer and Herring¹¹ attributed the diuresis to cellular stimulation because they observed that the increased flow of urine outlived the rise in pressure of the general circulation. Pal¹², who did most of his work with cats, found that even after curare the bladder would fairly rapidly be filled following injections of pituitary and he concluded that it dilates the peripheral vessels of the pelvis but contracts those of the proximal section. In search of an explanation, Sollman found that when the spleen was left in contact with the central nervous system and perfused with pituitary extract an intravenous injection of the extract caused some dilatation of the splenic vessels, seemingly establishing a central dilator action. Reasoning by analogy, he leans to the opinion that the diuresis is produced in somewhat the same way. Ott and Scott¹³ believe that the diuresis is due to direct cellular action and that the renal vessels are uniformly dilated. They are inclined to think that the general rise in pressure plays a small part in the diuresis. Houghton and Merrill¹⁴ using the technic proposed by Sollman conclude (1) that the increase in urine in anesthetized animals depends chiefly upon increased blood pressure rather than specific action on the secretory cells; (2) that while it is possible that some specific action does occur, it is less than in the case of a 1 per cent saline solution, and (3) that pituitary brought directly in contact with these cells causes less effect than sodium chloride. While for the present the explanation of the diuresis may seem largely academic these facts are of practical importance: (a) There is a unanimity of results in experiments as to the occurrence of diuresis. (b) Perfusion of the kidney with the extract will invariably cause a constriction of the renal vessels. (c) Repetitions of doses cause less effect on general blood pressure while the increase of urine is maintained. (d) The pituitary is found to be frequently enlarged, post mortem, where polyuria was a symptom. (5) It will often re-establish the flow after suppression following operative procedure or general anesthetics.

Action on the Uterus.—To Dale¹⁵ probably belongs the credit of first demonstrating the influence of pituitary on the uterine body. He incidentally mentioned his experiments with this gland in a paper on ergot. Bell¹⁶ claims to be the first to have used it clinically. The effects are prompt, are probably as pronounced as from ergot and a more pro-

longed contraction is not only observed but retraction is good. In those cases where the uterus was exposed to the eye of the observer during Caesarean section the organ was observed to contract into what is described as a "blanched ball," and subsequent relaxation is of but moderate degree. Subinvolution of the uterus, due to defective contraction and retraction, is one of the dangers of Caesarean section, especially when performed before the onset of labor and the routine use of pituitary extract at the termination of the operative procedure and for a varying period thereafter would seem a warranted proposition. There is no doubt that post partum hemorrhage can be as effectually stopped by means of pituitary as with any other drug. The action is quite prompt when injected into the uterine structure. The character of the contractions resemble those of the normal uterus. It seems to act best after spontaneous contractions have begun and stopped. Bell believes, as a result of his experiments together with his clinical work, that it acts better on the atonic organ than on the normally contracting one—a claim which he makes with reference to the blood vessels also. Since it causes prompt contraction of the uterus the same precautions with reference to administration before completion of normal labor should be observed as is recognized with other agents of this class. Ott and Scott¹⁷ state that the contractions of the human uterus caused by pituitary are more prolonged than those induced by any other drug. The action is chiefly peripheral as shown by placing an isolated and active uterus in Ringer's solution and noting the powerful contractions after injection of the extract. White¹⁸ reports a case of instrumental delivery at term under spinal anesthesia, the woman having pneumonia, in which there was post partum hemorrhage, due largely he believes to the tropococaine used in inducing the anesthesia; the extract was used in the buttocks and prompt contraction was secured. Fischer¹⁹ reports his experience in a series of fifty obstetric cases. In thirty pituitary was used to augment the contraction before labor was completed. He noted effects in from one to twenty minutes—the average being six minutes—while the action lasted from two to four hours after which time the pains became less frequent and he thought, weaker. The effect seemed more pronounced the more advanced the labor. These were cases where he thought forceps would have to be used; some of them having feeble, wasted muscles and atrophied uterine tissue. In those cases where the extract was used alike to accelerate labor in the interest of mother or child and in those having post partum hemorrhage, the results were satisfactory. In our own experience, the extract has been used in

three cases of frank post partum hemorrhage; the contractions were satisfactory in all of them, while in one absolutely nothing else was done to check it save an injection directly into the uterine muscle, it has been used by way of precaution in normal cases for nearly two years with more frequency than ergot; its use in small doses to augment feeble contractions before delivery has likewise served us well.

PITUITARY AND METABOLISM.

Effects of Removal.—The dictum of Horsley that no effects followed removal of the pituitary gland, coming from such high authority, no doubt kept this organ on the neglected list for a long time. But Paulesco²⁰, by an improved technic of approach to the base of the brain and removing the gland in its entirety, found that a uniform and peculiar train of symptoms invariably followed by death in two or three days occurred. He later concluded that separation of the stalk caused the same results as removal. Cushing and Redford²¹ found Paulesco to be partially right; that mere separation of the stalk does not cause death necessarily; that loss of the posterior lobe leads to no obvious disturbance in the animal's condition; the symptoms of such removal as stiffness, unsteadiness of gait, lowering of temperature, slow pulse and respiration, irregular muscular contractions and tetany-like tremors, lethargy with coma and death ensuing. In every animal that survived some viable fragments of the anterior lobe were found remaining. The great Horsley had erred, not so much in his conclusions but in his technic. He thought that he had removed the gland in its entirety but failed. Partial removal of the anterior lobe leads, in young animals, to a persistence of infantilism—undersize, no secondary sexual characteristics, hypotrichosis and a subnormal temperature; older animals under the same conditions show a tendency to return to the infantile type, with loss of spermatozoa, atrophy of testicles, absence of mitosis, etc., with histological alterations in the islands of Langerhans, the thyroid and a glycosuria.

Effects of Dissected Conditions of the Gland.—Pierre Marie, in his classical paper on Acromegaly in 1886, was the first observer to call attention to the pituitary gland to account for errors of development or manifestations of disease. While some of his conclusions have been since challenged yet he placed the pituitary on the pathological map. It is, perhaps, not true that tumors of the gland always result in acromegaly for Frolich and others have described a creditable number of cases of tumors of this organ with no acromegaly, but adiposity and infantilism instead. But since overactivity of the anterior lobe is now recognized as the most active functional fac-

tor in the production of acromegaly and since an exaggeration of function is not necessarily accompanied with any appreciable increase in size, the real import of Marie's work is not lessened. Acromegaly is the result of hyperpituitarism after the organism has become fully matured. When it occurs in the young a condition known as gigantism, which is closely related to acromegaly, ensues. This statement was first made by Meigs and the consensus of opinion still supports it. Evidently a close and interesting relationship exists between adiposity and hypopituitarism. Friedenreich²² believes that obesity is not infrequently due to disease of the hypophysis or an impairment of its function in consequence or as a complication of disease elsewhere. Persistence of infantilism or a reversion to that type when occurring in adults and insufficient activity of the gland have already been referred to under the heading "effects of removal."

Effects of Administration.—The experiments of Thompson and Johnson²³ showed that ingestion of the entire gland led to a loss of weight. They accounted for this by a stimulated metabolism due to the posterior lobe. Sandri²⁴ observed no effects on mice from two months' feeding of the anterior lobe and a noticeable loss with arrest of development when the posterior lobe was given. Schafer²⁵, however, has demonstrated that rats fed on anterior lobe showed a definite increase over controls. Goetsch, working in the Hunterian laboratory, obtained results supporting Schafer. Cushing²⁶ states that the most striking sequence of anterior lobe ingestion is a temporary pyrexia of from two to four degrees (Centigrade). Dunan²⁷ has made an extensive study of the influence of pituitary on metabolism. He has found that the toxicity of the urine is increased, nitrogen elimination diminished and that glycosuria is constantly present. This latter statement introduces the interesting relationship between carbohydrate tolerance and the pituitary gland. Goetsch, Cushing and Jacobson²⁸ have published the results of a series of experiments which tend to throw some light on this relationship. They found that in partially hypophysectomized animals a transient glycosuria usually showed immediately after the operation but this condition soon yielded to a markedly increased carbohydrate tolerance. This tolerance could be reduced to or below the normal very readily by administering extracts of the posterior lobe. In other words, excessive activity of the gland or over-dosage results in glycosuria, while lessened secretion, either from removal or disease, results in a greatly increased carbohydrate tolerance. A satisfactory explanation of the varying clinical picture of acromegaly is thus afforded;

hyperfunction obtains early in the disease—hyperfunction not only of the anterior lobe which leads to the skeletal changes, but of the posterior lobe as well which ends in glycosuria; in the latter stages there is hypofunctioning of the posterior lobe which results in increased tolerance and disappearance of sugar. Of, perhaps, equal interest is that group of cases presenting interpenduncular tumors, tumors of the posterior lobe, etc., which cause an obstructive hydrocephalus damming back the posterior lobe secretion. It is possible that the transient glycosurias frequent in basal fractures are due to temporary irritation of the hypophysis. A number of cases have been reported which were diagnosed as diabetes mellitus and insipidus where post mortem showed them to be due to diseased conditions of the posterior lobe. These are not such rare conditions and many clinicians believe that disease of the pituitary are as frequent as those involving the thyroid.

PITUITARY AND THE GONADS.

Hypogonadism.—Fiehera²⁹ conducted a series of experiments on 65 animals, including rabbits, guinea pigs, cattle and buffalo, to determine the effects of castration on the pituitary. He found that the removal is followed by hypertrophy of the anterior lobe with hyperplasia of the eosinophilic cells. His conclusions have been confirmed by Schutz³⁰, Tandler and Gross³¹ and Soli and Kon³², the latter observing eight cases in the genus homo. The effects of this operation seem confined to the anterior lobe and suggest that the pituitary may normally be held in check by the secretions of the gonads and when removed it manifests increased activity leading to altered metabolism and overgrowths. Church³³ called attention to the fact that disturbances of the pituitary are frequency associated with sexual anomalies. Cessation of menses in the female and impotence in the male are recognized initial symptoms of acromegaly and the same is true of pressure from neoplasms on the pituitary. The restoration of menses after removal of pituitary tumors conclusively proves this relationship. Cushing³⁴, Monier-Vinard³⁵ and others have reported atrophy or aphasia of gonads in both sexes associated with tumors of the pituitary.

Hypergonadism.—No evidence has been found of any effect on the pituitary by increased activity in the male. In the female, pregnancy causes an increase according to cytological studies made by Launois and Mulon³⁶ and others. In a careful comparison of weights and cytological condition of the gland from 85 pregnant women Erdheim and Stumme³⁷ found both pituitary hypertrophy and cellular activity accompanying pregnancy. That these changed conditions may

be due to altered metabolic accompaniments of pregnancy has been suggested by Hoskins³⁸.

INFLUENCE ON THE GASTRO-INTESTINAL TRACT.

Motility.—Peristalsis of both the stomach and intestine is increased. On pithed rabbits the movements are rather violently performed, and local blood pressure raised. The effect is noted in from five to twenty minutes when the extract is given intramuscularly. This action seems to be the result of its influence on the muscular tissue rather than on the myoneural junction. Bell³⁹, who has done much pioneer work with pituitary, speaks rather enthusiastically of its use in paresis of the bowel and considers it more efficacious than eserine. In his surgical work he had an opportunity to test its reliability in post operative acute gastric dilatation. In the same year Bell and Hiek⁴⁰ experimented with it on paralytic distention of the bowel with satisfactory results. Bidwell⁴¹ made a series of observations on unselected cases after abdominal operations to note the effects on peristalsis. He concluded that a satisfactory influence in overcoming temporary paralysis due to exposure was exhibited; there was earlier passage of flatus, absence of abdominal discomfort and a smaller amount of purgative was needed. He used three injections of 1 c.c. each during the first twenty-four hours, giving the first six hours after the operation and the other at six hour intervals. Prompt and satisfactory results have been reported in cases of ileus by several observers; in these cases a repetition of dosage in from thirty to sixty minutes was used. We have had some experience with the extract in acute gastric dilation, and while it may be difficult to dissociate the effects of lavage from those of pituitary, yet the results have seemed to be better when it was used than when lavage alone was employed. Only in a large series of cases could satisfactory comparisons be drawn as to the number of washings and the length of time after the appearance of the condition that they had to be continued, but it seems to us pretty certain that pituitary produces a sufficiently prolonged effect on the muscle fibres to materially shorten the life of the condition. We wish to state, emphatically, that there is no single measure comparable to the timely use of the stomach pump. However, there occur too frequently cases when it seems that the musculature of the stomach has lost absolutely its power of contraction and will refill again and again after lavage until death occurs. It would also seem not unreasonable to accredit pituitary with a prophylactic mission and its use immediately after operation in such cases as have necessitated the long exposure and trauma incident to certain proced-

nres may, not infrequently, forestall the advent of a condition that causes dismay to even a veteran operator.

Gland Activity.—In 1908 Pemberton and Sweet¹² announced their conclusions that pituitary extract inhibited the flow of pancreatic juice. In their summary of their experiments they stated that they believed that this action was the result of an influence on the cells of the organ rather than the product of circulatory changes. Edmunds¹³, the following year, took issue with this conclusion arguing that the inhibitory action was entirely the result of changes in the blood supply. Pemberton and Sweet continued their experiments and in 1910 reaffirmed their original conclusions as to the mode of action, thus: (a) that pituitary inhibits the pancreatic activity. (b) that this inhibition occurs independent of the blood supply. (c) That it occurs also when the pancreas is stimulated by its normal excitant in the duodenum—hydrochloric acid.

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DISCUSSION.

F. C. Askenstedt: I came here expecting to hear a paper that was well worth hearing, and I am only disappointed in that it was not longer, because I enjoyed every word of it.

The pituitary gland has recently been extensively studied, much to the advantage of the clinician, and some very practical points have been observed. Not long ago it was thought that the pituitary body was a rudimentary gland,

like the pineal gland, because its anterior lobe is simply a diverticulum of the fauces of the foetus, and if we examine it histologically, we find that it is almost identical in composition with the thyroid. Its posterior lobe, on the contrary, is a nerve center, and contains as many as ten different kinds of cells, showing the high degree to which it has been differentiated.

While the doctor was reading his paper it occurred to me that Sajous' views seem to harmonize with many of the points he brought out. Sajous, after thorough investigation, has promulgated the theory that the posterior portion of the pituitary gland is a nerve center concerned chiefly with the thyroid and adrenal glands; for, while it has other functions, this is the main one. Furthermore, that it has no secretion of its own, and that stimulation or irritation of this gland causes excessive function of the thyroid, which, in a young and growing child, leads to unequal growth, or acromegaly. Stimulation of the pituitary also causes increased function of the adrenal gland, the main functions of which are oxidation, and contraction of the blood vessels. This theory would seem to explain the fact that contraction of the blood vessels occurs when the pituitary gland is stimulated. We find that the pituitary extract itself has a contractile effect upon the blood vessels, which is probably not caused by direct stimulation of the suprarenal gland, but because the posterior lobe of the pituitary is largely composed of the same type of cells as are the adrenal gland—chromaffin cells—and it is this substance that causes contraction of the arteries. That the pituitary gland has no secretion of its own seems to be supported by the fact that, in hyperthyroidism, the symptoms can often be relieved by injecting the extract of the pituitary gland, causing contraction of the blood vessels that are dilated by the hyperthyroidism and thus alleviating the symptoms. In this respect pituitary extract might be compared to adrenal extract, but the former can be taken by the mouth to greater advantage than can the suprarenal. We know that adrenal extract is very slowly absorbed by the mucous membranes. Furthermore, as we have heard to-night, pituitary extract stimulates the secretory function of the kidneys, while adrenal extract contracts the blood vessels of the kidneys, consequently causing them to excrete a decreased quantity of urine.

One point that we might well bear in mind is the fact that the repeated administration of pituitary extract will soon lose all effect. That is, a second dose given shortly after the first one is almost devoid of result, and a third dose given immediately afterwards will not contract the blood vessels at all, but may even dilate them, as stated by Dr. Simpson in his paper. On the contrary, if we want a sustained effect, by using adrenal extract, we can continue the contracting effect by each dose. As the essayist stated, the

effect of pituitary extract, while a little slower in manifesting itself, is more prolonged, as a rule, than that of adrenal extract, but if we desire to continue the effect, it can be done to better advantage by using the suprarenal extract. Not in every case, however, do we find that the pituitary extract produces a more prolonged effect than that of adrenalin. Only a short time ago, I tried pituitary extract, 1-100, in a patient in the last stage of tuberculosis, and obtained an increase in the tension of 5 mm., lasting about twenty minutes. Two days later (on the day he died) I administered adrenalin, 1-1000, and obtained a rise in the pressure of from 10 to 15 mm., lasting for fully half an hour.

The use of pituitary extract and adrenalin seems to be mainly indicated in cases of shock, or in cases of threatened death under an anesthetic. In such cases we want a remedy that acts promptly and surely, and I know of none, except nitroglycerine (which has an opposite effect so far as the blood pressure is concerned), that will act as promptly as adrenalin. In patients who are extremely exhausted from disease we do not get much response from drugs, because the reactive force is exhausted, but if pituitary or adrenal extract is used we supply the very stimulus that we have been endeavoring to elicit by means of drugs and of course it acts much more promptly.

I wish to sound a note of warning in connection with the use of these extracts, however. Never use them in cases where there is already high tension, because there is danger of rupturing the blood vessels. I know of one instance in which the tension was increased as much as 55 mm., under the administration of adrenal extract, and you can easily imagine what the effect upon an already high tension might be, possibly leading to hemorrhage in the brain or in the suprarenal gland. We should also be cautious in administering them to children, as they seem especially prone to adrenal hemorrhage. Loeper and Oppenheim found adrenal apoplexy in 45 per cent of their autopsies of infants.

Wm. A. Jenkins: Pharmaceutical considerations of any therapeutic agent are, in a sense, dry, but this fact may be advanced in extenuation, they are necessary. However, I am sure that if any real advance is to be made along this line in the future, it will be the outcome of a double consideration—pharmacological on the one hand and clinical experience on the other. The real value of any therapeutic agent can only be determined by due consideration of the two sides of the question.

I suppose that Cushing has experimented with, operated upon, and understands this gland more thoroughly than any other man in America—or any other country for that matter, and in his recent book on "The Pituitary Body and Its Disorders," you will find all that is obtainable on the subject.

The last speaker is mistaken in the statement that there is an absence of secretion in the posterior portion of the pituitary gland; most authorities are inclined to believe that there is a secretory function.

In regard to the administration, internally or subcutaneously, of extracts of this gland, or of suprarenal gland (which are very closely analogous), it has always been my opinion that very little in the way of results can be obtained from the administration of adrenalin by the mouth, and this opinion is corroborated in an article on the subject which appeared in the last issue of the *Journal of the A. M. A.* It is certainly true that pituitrin, used subcutaneously, has about the same range of action as adrenalin, and it is equally true that, while the effect of the former is not so spectacular, it is more prolonged.

I think the explanation of the fact that it does not have any particular effect upon the blood vessels of the brain is this: From the standpoint of anatomy, we know that there is no especial vasomotor mechanism for the blood vessels of the brain, therefore, the blood pressure can only be raised in the brain by acting through the systemic circulation and thus raises the blood pressure generally.

I have had a limited experience with pituitrin and have used it in the same conditions as I would suprarenal extract or adrenalin. I had a very happy experience with it in three labor cases which were of the atonic type referred to by the essayist. In these cases, where there seems to be nothing wrong except that the uterus has simply lost its tone and quit working, there is no question but that the administration of pituitrin is of considerable value. The only times I have used it was in the second stage, when labor was well along, and I am convinced that it was beneficial.

My experience differs from that of Dr. Askenstedt in that a second dose produced about the same influence as the first. However, I have never given a second dose immediately upon the heels of the first, usually waiting two hours or even longer, and I am positive that in one case it produced very good results. In reading the literature on the subject I noticed that pituitrin is being used very extensively in the class of cases referred to, and in some instances three doses have been given at intervals of two hours between doses.

E. S. Allen: I think Dr. Simpson is to be congratulated upon the masterly manner in which he has gone over the literature on this very interesting subject, as well as giving us the benefit of his personal experience with pituitary extract. In the management of post-operative conditions which we so much dread, it would seem that, if we have here an agent that will contract the stomach, bring to life a practically dead peristalsis, stimulate the heart and blood vessels,

make the kidneys excrete and the bowels move, we ought to feel thoroughly satisfied.

I do not think there is any doubt that this is a great therapeutic agent in certain conditions, especially shock. It is greatly preferable to adrenalin because the effect of the latter is so evanescent. Furthermore, we have, in pituitary extract, an agent which seems to act directly upon the musculature of the blood vessels. We have a great many so-called stimulants which act through the vaso-motor system, exhausting its energy. We know that in patients with vaso-motor paralysis caused by shock following operations, the vaso-motor centers are, to a certain extent, anemic; the heart is weakened and more or less relaxed, and it has not enough energy to pump the arterial blood into the medulla in sufficient quantities to furnish proper nutrition to the vasomotor centers. In such cases by giving an hypodermic of strychnia, we exhaust whatever reserve energy may exist, and the patient finally dies as the result of paralysis of these centers. Practically the same thing occurs when we introduce saline into the vessels; it increases the pressure enough to force a sufficient amount of blood into the medulla, but the reserve energy is soon exhausted. If we have in pituitary extract a preparation that will, as it seems to do, act directly upon the musculature of the vessels, making them contract without exhausting the reserve energy of the vasomotor centers, stimulating the heart without drawing too strongly upon its reserve energy; that will act upon the musculature of the intestinal tract, stimulating these muscles and causing peristalsis to be generated, thus ridding the intestines of the toxic material that has accumulated (accompanied by the development of millions upon millions of bacteria), then we have a remedy from which we can hope for a great deal in the future, especially in the treatment of post-operative conditions. An encouraging feature is the fact that this preparation is different from a great many other agents which act best upon the normal structures, while, on the other hand, we get the best effects from pituitary extract where we have an atonic condition of the structures.

Bernard J. O'Connor: I have had some little experience with pituitary extract in cases of menorrhagia occurring about the close of the menstrual life, often very persistent and profuse without any local inflammatory condition of any kind. In two such cases almost perfect relief was obtained from the use of pituitrin. Recently I had a case of this kind in which pituitrin, every six hours for three days, failed to produce any effect. Curretage was followed by relief for about six weeks, but it was finally necessary to remove the uterus. No pathological condition could be detected in the uterus at that time.

I thoroughly agree with the essayist and Dr. Allen in regard to the influence of pituitary ex-

tract upon the musculature of the blood vessels and intestines. I believe it has more influence upon the involuntary muscles throughout the body than upon the nerve or other centers.

F. T. Fort: I have enjoyed this paper as much or more than any I have heard read before this society. If I have a therapeutic hobby it is pituitary extract. In the past three years I do not believe I have seen a case of shock, either traumatic or surgical, in which I have not used pituitary extract. As staff surgeon at the City Hospital, upon entering upon my duties I see that a supply of pituitary extract is ordered, and for two years I have not had a death at the City Hospital. Of course I do not attribute this fact entirely to the use of pituitary extract, but I am certain that it has saved some lives.

I think it is one of the most reliable sheet-anchors we have in the treatment of post-operative conditions which require something to overcome the shock—almost death-like condition of these patients. In cases where there has been loss of blood, plus shock, I give saline intravenously and immediately after taking the patient from the operating table I begin the use of pituitary extract, giving it every two to four hours as indications require. I sometimes supplement this by the administration of adrenalin. I believe it is better in conditions of shock than any other therapeutic agent we have. It seems to slow the afferent impulses that are being transmitted from the site of the trauma or operation. In that way the shock is shortened and the patient is tided over a period in which death would likely occur without the use of pituitary extract.

I have never used this agent in obstetrical cases, but after using it in from 50 to 100 traumatic and surgical cases I feel that I can vouch for its efficiency.

Harry J. Phillips: I would like to speak to the standpoint of the gynecologist and obstetrician. It seems to me that this agent reaches its highest point of efficiency in obstetrical cases. It can be used with safety in any stage of labor, and especially in the second stage when the os is dilated and the membranes ruptured. It can also be used with safety in those cases where there is no anatomical deformity, and you can save two or three hours that would otherwise be spent at the bedside of the patient. The use of pituitrin or pituitary extract, will bring on hard, steady pains that will lead to an early termination of the labor.

Pituitary extract also plays a very important part in gynecology. In menorrhagia and kindred troubles, caused by inflammatory conditions of the uterus or its adnexa, it can be used with very satisfactory results. I have used it quite a few times in my practice and I feel that it has great therapeutic value. I have never used it, to any extent, for its diuretic effect, nor in shock, but in obstetrical cases I can recommend

it to the younger men, especially where one is anxious to carry the labor through to termination as rapidly as possible and get away from the bedside, thereby saving two or three hours' time.

The paper is a very comprehensive one. The essayist has gone into the subject very thoroughly, and I am sure we have all enjoyed it. I wish to thank the doctor for his paper.

Albro L. Parsons: I have been waiting patiently to hear some one say something about the effect of the anterior portion of the pituitary gland upon metabolism. As Dr. Askenstedt stated, the anterior portion of the pituitary gland and the thyroid gland are analogous in structure. I have had under observation a case of hypothyroidism in a child who came under my care when she was twelve years old. The use of thyroid extract did not produce the results I had hoped for, and I decided to use an extract of the anterior portion of the pituitary gland if it could be obtained. I therefore wrote to several pharmaceutical houses that make animal extracts, and I was informed by each of them that they did not make such an extract. Upon looking up the literature I did not find that any encouraging results had been obtained from it. Of course, my search has not been nearly so thorough as that made by Dr. Simpson. He mentioned two men who claim to have obtained good results from an extract of the anterior portion of the gland in the way of increasing metabolism, and increasing the growth after a period of stunted growth. I see no reason why we should not use it. The anterior portion of the gland is so exactly similar to the thyroid gland that I should think it would supply a very great need.

I hope the essayist, in closing, will tell us more about how he administered this agent, with particular reference to whether it may be given by the mouth, or whether it must be given hypodermatically or intravenously. There seems to be some question as to whether or not any results are obtained from administration by the mouth.

Edward Speidel: Notwithstanding Dr. Phillips' advice to the younger men in regard to the use of pituitrin in obstetrical cases, I would like to caution them, as well as the older men, to be very careful how they use it in these cases. When used at the end of the second stage of labor, it acts very quickly, usually in about three minutes, and unless the chloroform is ready so that we can quickly get the patient under control, a very badly lacerated perineum may be the result. This statement is based upon my experience in two cases that I had recently. We all know and dread the large, heavy primipara. Whenever I get a primipara who weighs more than 150 pounds I know I am going to have a hard time. During the month of August I had such a case, and I worked with it from two o'clock in the morning until eight o'clock at night, making very little progress. As is my custom

in such cases, I gave the patient an hypodermic of morphin. Two hours later the cervix was completely dilated, although it had dilated only about one-third previously. The membranes were ruptured and the patient brought the head down on the perineum and there it stayed. I gave her ten grains of quinin and repeated it twenty minutes later, without any effect. Then, having some pituitrin with me, I gave her an injection, and I am satisfied that it was scarcely three minutes until she began to have hard pains. As is my custom, I delayed the labor, using chloroform, and finally succeeded in delivering the woman of a fourteen-pound baby—the largest living baby I have ever delivered—without laceration of the perineum.

A great many contributions have been made to recent literature in regard to the use of pituitrin in pregnancy, in labor and in the lying-in-period. The September number of the American Journal of Obstetrics and Diseases of Women and Children contains a very excellent article on this subject, in which the author arrives at the following conclusions:

In a number of cases in which abortion was indicated prior to the third month, it was found that repeated injections of pituitrin had no effect. Furthermore, it was found that, in order to induce premature labor after the sixth month, it was necessary, in addition to the injection of pituitrin, to introduce a hydrostatic pack or a bougie into the uterus. At full term, in the first stage of labor, pituitrin should not be used unless the cervix is dilated to the width of three fingers, and then only in cases of uterine inertia. If used before the cervix has dilated to the point mentioned the labor will simply be delayed after the effect has worn off. Its use is also indicated in the second stage of labor, but the best results are obtained in the perineal stage, when the head has come down on the perineum and is making no further progress. Administered at this time, it will often save the use of forceps. However, as I have previously stated, we must be careful to have the chloroform ready so as to be able to retard the expulsion of the head and prevent laceration of the perineum. In the third stage is where the difference between pituitrin and ergot becomes apparent. Pituitrin induces intermitten contractions of the uterus, while ergot causes tonic contractions. Therefore, it is claimed that ergot is better than pituitrin in post-partum hemorrhage. However, in a case of this kind, where a prompt effect is desired, a hypodermic of pituitrin should be given in addition to the administration of ergot.

Because of its effect upon the blood pressure, pituitrin should not be used in cases where there is a pressure of 150 to begin with. Consequently, it should never be administered in the toxemia of pregnancy.

In Cesarean section pituitrin should not be given until after the sutures have been placed in

the uterus, as the effect of the agent is so prompt as to render the introduction of sutures difficult. In the article mentioned the author reports one case in which contraction was so prompt that the sutures in the uterus could not be placed accurately.

One disadvantage in the use of new remedies such as this is that in the beginning they are recommended for practically every condition, and I think it is a wise plan to be exceedingly careful in the use of new remedies until a larger experience with them has demonstrated their proper sphere.

Virgil E Simpson, (Closing): Those who know me best will scarcely credit the idea that I hold a brief for any drug as a panacea for all the ills that human flesh is heir to. I have endeavored, in the presentation of this subject, to give the conclusions of investigators, based on experiments upon both the lower animals and the human species; the deductions are to be drawn by yourselves. I would have liked to have illustrated the paper with some experimental work, such as I presented in connection with an article on suprarenal gland, read before this society some time ago, but on account of the slow action of the drug it would have consumed too much of your time. Furthermore, it is exceedingly difficult to transport the necessary apparatus and conduct such experiments in a satisfactory manner anywhere outside of a laboratory.

If Dr. Askenstedt had paid a little closer attention to the paper, he would have noticed that I called attention to the danger of administering this agent in cases where there is an already high blood tension.

Referring to another portion of Dr. Askenstedt's discussion, I do not believe that results will be obtained from pituitary extract when administered by the mouth. This is also true of suprarenal gland. If we expect to secure results from either of these agents, they must be given intravenously, intraarterially, or perhaps subcutaneously. The active principles of these glands seem to be disintegrated by the fluids in the stomach, and we do not get the desired effect.

Answering Dr. Parsons, I will say that the administration of the whole gland structure, over a long period of time, seems to have an influence on metabolism. If Dr. Parsons desires to use an extract of the anterior portion of the gland, I would suggest that he make his own extract. No pharmaceutical house makes an extract of the anterior lobe as distinguished from the posterior lobe, perhaps because the necessity for its administration has not been appreciated.

I wish to thank the members of the society for the patience they have shown and the interest they have manifested.

POSTURE IN THE ADOLESCENT PERIOD.

By JNO. D. TRAWICK, Louisville.

In a study of the development of the child, one finds points of varying interest at every stage. From the pink bit of new-born helplessness through the first-tooth stage, along the uneven path of the first steps into the confusing maze of learning to talk, up to the first buds of character formation—at every point thus far, his weakness cries aloud for affection and care. The answer ought to be in the fullest protection, the absolute shielding from every sort of mental, moral and physical strain. He is in no condition to bear burdens, his principal work should be in *being formed right*, in getting a straight back and big lungs, a strong heart and a clear mind, in building the foundations for such a nervous constitution that will, among other requirements be capable of elaborating a moral sense that will point him straight.

At five to six years we find him in possibly the most plastic stage of his existence. Whatever goes into his moral fibre now is apt to leave a permanent color in the matured character. Likewise any influence that profoundly effects his physical nature is apt to leave its permanent imprint.

Prior to this age he was merely a mass of potentialities, the most neutral of creatures, whose functions were largely reflex, or automatic. Now we find him learning some new fact every hour, unconsciously incorporating into his character the essential features of his environment.

The problem of the growth of the child has been from the beginning finally one of *nutrition*, in the broadest sense. Whatever makes for the fullest development of the cells is properly included in this term. Every ounce of assimilated nourishment counts; every small bit of wasted energy has its telling effect. Each element in the little body is calling for its particular sort of nourishment. As this need for nourishment increases progressively, so the danger of partial tissue poverty increases.

Let it be kept in mind that in using the term "nourishment," we are referring to more than the gastric function, to more than mere physiological tissue building from assimilated food. When we realize that nutrition means "*all the circumstances of life which effect tissue change*," one comes to feel that no influence is entirely out of its limits. Those disturbances of nutrition which result in physical deformities leave their mark so plainly that they are known and freely discussed.

Mental depression may likewise be left by impaired nutrition. They produce deformities quite as frequently, though we call them

by different names. Social position, duration, manner of occurrence, all determine the term, but we speak of a "child criminal," "an eccentric person," a character that is "weak," or "rash," or "perverse," and by many other like terms designate the results of impaired cell nutrition.

Wrong methods of feeding, of rest, of amusement, of occupation, are some of the elements that help to make a child one-sided, or deficient—a nervous child. It would be interesting, may be profitable to digress just at this point, to inquire into the causes of many of the so-called nervous diseases of childhood, also to picture some of the results, and show how the child is in more senses than one, truly the father of the man, in that what may be having its expression now in the child leaves the permanent mark to appear forever in the matured character.

It is not too much to say in passing that subject, that such nervous children are at once the promise and the danger of the next generation. All the permanent interests of the man have their origin or become greatly emphasized at this age—six to eight—and if any given interest is lacking now it is very unlikely to exist in the mature man.

Nutrition in fact in the child is almost the only part of him after all that is susceptible of cultivation. A fairly important part of each person is born in a certain state without the possibility of change, and an attempt to influence that, would be about as feasible as trying to civilize a remote ancestor. But there remains that part of the person, which we say is susceptible to environment, that must now be effected, or remain forever uncultivated, that is, unenriched.

As our child develops into that period from ten to fourteen years of age, we see nature "making her last great struggle to be generic." As fascinating as a study of adolescence in its psychologic phases, might be, we must pass on to a particular feature and lay our whole energy there. If there has been any failure to cultivate the highest state above all for the deficiency to be recognized, for there can be no disputing the law, that *outside of his own business, the ideas gained by a man at this developmental stage, from 14 say to 25, are practically the only ideas he shall have in his life. He cannot get anything new, for after this, the power of assimilation of the new is gone. The channels are set and the mental process becomes concentrated upon the specialty of that individual career.*

Just as these facts are true of the mental, so do they hold good in the physical development. Every advantage must now be taken of the results of nutritional cultivation in the earlier periods, the good being conserved and

the deficient brought up to as near a normal standard as can be.

In this period of adolescence, call it puberty, junior adolescence, transitional stage, or whatever you may, what should interest us as physicians most, is to see that there is a minimum of wear upon the finely adjusted mechanism of the youth just coming over the horizon of his career, for wear means waste, means fatigue and fatigue is destructive to nerve cells and vital force.

One begins now to see why there should be shown no sympathy for the vicious and misleading doctrine implied in the advice so often heard, in case of so-called minor illness, "just let him alone, that is to be expected, he will outgrow it." On the other hand we have so little patience with over-indulgence, pampering in the training of the adolescent.

It is just as important for the expert in diseases of childhood to incorporate into his ideas for the development and maintenance of a high standard of efficiency, a scheme of general observation of the entire mental, physical and psychological character of the child as it is to develop a scheme for proper feeding, or for the care of the nose and throat.

We are part of a new era that is demanding conservation of our child life, the nation's life. Who has a better right to lead in the cause, indeed upon whom else does the responsibility for leadership rest with greater weight than upon the earnest physician whose heritage it is to know the rights of the child, and to instruct the fathers and mothers of this, even of the next generation, in this greatest cause—the conservation of a race. Truly says Richard Cabot, "It is good to make a living, but infinitely more desirable to make a life."

What the phenomena of adolescence may be in any given individual depends largely upon the person's general health, education, hereditary tendencies, temperament, and the like. Since obviously this is too great a variety of factors to allow for detailed investigation now, it is well to observe a few, and stress their importance. We must refer you to works on pedagogy or to more technical writings for the psychology of the period. This is our opportunity to stress a few physical facts not so frequently written about.

The close observer will notice that at this period there will develop peculiarities of poise of body, aside from the easily explainable awkwardness of the youth, when it is easier for him to fall over a chair than to go around it,—a period nevertheless that we are not disposed to hold up for ridicule. A study of this irregular posture will show that it is incompatible with the fullest unhampered development of the organs involved. In calling attention to posture, we are in danger of leaving

the realm of the practical, if we fail to apply the strictest anatomical and physiological principles to our investigations.

If ever in the process of the growth of the child there can be one time more essential than another, that he have room for full expansion of his lungs, it is in this early adolescent period. You know how the physical changes are taking place, how the heart is enlarging, how the blood-vessels themselves become one-third larger than in early childhood, how the convolutions of the brain are unfolding, the skin becoming more sensitive, the bone-structures are settling into their maturer fixedness, how the intruding tides of Being sweep the real boy so often from pinnacle to peak. The heart needs to be unhampered, the diaphragm free, the abdominal viscera encouraged to their fullest functioning.

This brings us then to consider in detail this feature of the developmental stage of youth, from a very practical standpoint. This patient is brought to us with the statement that he seems so tired on being awakened in the morning. He eats his breakfast mincingly, is off with indifference, lacking the buoyant spirits of naturally optimistic youth. He tires easily, is indifferent in play, and easily shows fatigue. Frequently complains of pains in the abdomen, bilious attacks, and suppurative, in day stool, of appendiceal trouble may be aroused. In the absence of more definite symptoms, and should our investigation stop here, as is too frequently the case the child might be sent away with a tonic, and instructions to get plenty of fresh air, etc., etc., and report back in two or three weeks.

But let this patient be undressed entirely, and even the most untaught observer will see—as one mother remarked, “I don’t know how to tell it, but I see that there is something wrong.” The head and cervical spine are thrown forward, the shoulders droop with a marked forward sag, the scapulae project outward and back from their normal close relationship to the spine. The sternum is depressed so that it is in almost a perpendicular, from ensiform to clavicular notch. The thorax is flattened from before backward, there is a peculiar downward droop to the ribs, with a distinct depression in the upper abdomen, like a fold or furrow, around the hypochondrium.

The abdominal organs are thus naturally forced downward, for the diaphragm is allowed to fall anteriorly, giving the liver room to drop several inches. The whole visceral load seems to be carried by the lower half of the abdominal wall. In this attitude of weakness, or fatigue, the axis of the abdominal cavity is made to more nearly approach the axis of the pelvis, so that the abdominal viscera nat-

urally drop unimpeded into the pelvic bowl. There is an increase in the upper dorsal curve, with a flattening and downward tipping of the pelvis. Think what effect this attitude is bound to have upon the Y ligament. When the body is held erect this ligament is naturally tense, but with the tilting of the pelvis downward and backward since the ligament cannot yield, the thigh must flex and inevitably the knees must show the same effect, giving us the so-called “sprung knees.” Following on down, one finds in nearly every instance that the arches of the feet are depressed or flattened, with a decided valgus, which may be more noticeable on one side than the other. The mere attempted correction of flat foot takes on in the light of these disclosures much more than a strictly local significance, and the failure to observe this general relationship of a local manifestation to a general defect, accounts many times for the failure of well intentioned “arch supports.” With such a faulty poise as this how can nature do her best? Unfortunately, her tendency unassisted, is to increase this attitude of fatigue as the individual grows to maturity. How can there be efficiency, out of such strain as this. Contrast this with the body of one erect and well-poised, where there must be the greatest amount of efficiency or energy whatever function may be required of the individual.

Remember we are speaking of the individual at the period most crucial in his development. Conservation of energy, not waste, efficiency, not inactivity must be the rule, else the growth must be defective, and the development irretrievably impaired. We can grow old but once. Compare the two positions, the erect well-poised, with the drooping, sagging posture of general ptosis, and it is not difficult to decide in which attitude “the spirit of the individual is most apt its greatest potential.”

Any departure from the correct attitude of well-poised balance, must mean dissipation of muscle and nerve energy, must mean body waste. “How unfair the problem of the struggle for existence becomes when in addition to the regular work of the body it is necessary to expend a considerable portion of energy in overcoming the strain of such imperfect posture.” In the sum-total of effort in maturity of a single individual such as this, here pictured, how much greater must have been the total efficiency had the energy been used in accomplishment of the things that count in life, that was wasted in the unconscious friction of mal-adjustment, faulty alignment, incorrect poise.

So common is this type becoming that one is beginning to question as to whether its prevalence is due to the fact of recognition, or if there can be a relationship of cause and effect. At any rate it is true that the type is fairly

constant in these mal-nourished children, but since a large percentage of all the disfigurements which accrue to the mature body and character have their origin in persistent violation, during adolescence, of one or all the demands for proper nourishment, in its comprehensive sense, we are calling loudly for a closer study of the growing child.

Sometimes the feet first attract attention, sometimes the round shoulders with generally bad carriage, sometimes the statement of generally poor condition of the child. We have seen an increasing number of cases, in which poor digestion, some in which abdominal pains were the symptoms for which medical advice was sought. It is easy to see how some one or more organs can be so interfered with by all the bad effects that can accrue, that it is not surprising there should be so great a variety of expressions in the symptoms.

Certain it is that many of the symptoms mentioned disappear when the general principal of treatment of the mal-poise is applied, while heretofore, attention alone to the symptom for which relief was sought, resulted in only partial and temporary benefit. How much permanent good will be gained from the mere treatment of so-called "intestinal indigestion," in these children, if we fail to ascertain that general abdominal ptosis exists, with consequent crippling of function of practically all the viscera.

In considering the treatment, one cannot do better than be guided by Goldthwait, of Boston, who has done more, probably than any other American orthopedist, both in the investigation and treatment of these conditions. He says, in speaking particularly of the visceral ptosis in children, "One does not expect in the treatment to be able to restore the normal visceral supports, but it is not unreasonable to expect that if the condition can by recognition in childhood be controlled, so that it does not increase, that the moderately good nutrition and vitality, which one expects to find in the early years of these children, can be preserved. Whether the special feature for which the child is brought, be feet, or round shoulders, weak knees, or relaxed sacro-iliac joints, whether the condition be medical with poor or irregular appetite, with repeated "bilious" attacks, with frequent clay colored stools, or with simply general mal-nutrition, a thorough examination should be made to determine the fundamental cause of the difficulty.

If these symptoms should all exist, our treatment does not consist in simply doing that which may be required for the local part, but should at the same time be aimed to control the primary lesion. In doing this it is possible that if the body is properly poised and the viscera properly supported, that the

undesired position of the feet or the weakness of the other parts, may be entirely corrected, by no other measure, since it then becomes possible for the parts to work rightly.

Special diets, stomach washings, tonics, may all have their place, but it is reasonable to expect that if the viscera can be properly supported and the body held erect, these measures will be more efficacious, while at times the use of the supports alone may result in such improvement of the functions of the various impaired organs, that little else may be required."

To recapitulate. In the sum total of effort in maturity of a single individual, such as is here pictured, how much greater would have been the total efficiency had the energy been used in accomplishment of the things of life, that was wasted in the unconscious friction of mal-adjustment, faulty alignment, incorrect poise.

From the beginning the problem of the growth of the child is one of nutrition in the broadest sense. Faulty methods of nutrition may result in deformities both of physical and mental nature. There is a point in the formation of character at the adolescent period, when permanent moulding is taking place. After this time, whatever may be lacking will hardly ever be supplied.

Fatigue results in waste and a general observation of the child, mental, moral, and physical, should be the part of every physician. Since faulty posture, results in expenditure of energy that should be directed to growth, it is vital to correct this at the adolescent period.

The type of mal-poise referred to is common, and concerns children particularly who are ill-nourished.

The steps for correction of the irregular poise must be based on practical rules depending on anatomical and physiological relationships.

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DISCUSSION.

Harry J. Phillips: This subject is a very unusual, but nevertheless a very vital one. We have all heard the old saying that "the child is father to the man," and this is true not only morally but physically. Every child, during the adolescent period, receives impressions that will last possibly throughout its entire life. The attempts which have been made in recent years to better the conditions in the tenement districts of our larger cities have done a great deal of good, many of these children being benefited morally, hygienically and physically. I would urge every practitioner, especially those who do obstetrics, to not fail to give every child that comes before you a most careful examination. We should not stop at a superficial examination, but should examine carefully into every organ in the child's body insofar as we can. Not only should the child's throat and eyes be looked after, but he should be examined from head to foot in order to determine whether or not there is any physical deformity that needs correction. I treat a good many children, and I am interested in anything that will benefit them.

The treatment, of course, is that which tends to develop the muscular power of the child—fresh air, good food, hygienic surroundings, and calisthenics. If the general rules laid down by Dr. Trawick are followed, they cannot fail to bring about beneficial results.

So far as the morals of these children are concerned, that is something over which the physician has very little control, because, as a rule, we have no control over the child's environments, nor over those with whom he is thrown into daily contact. If the child resides in the slums, amid surroundings that are far from hygienic, the result will be very unsatisfactory. As stated, however, the various women's clubs and organizations are constantly endeavoring to better such conditions in the larger cities.

I have been very much entertained and instructed by the doctor's paper.

Jno. R. Wathen: I think Dr. Trawick struck the keynote when he took the stand that these conditions, in a majority of cases, are congenital. This opens up a big field for surgical consideration. Dr. Clark, of the University of Pennsylvania, recently published a report of his elaborate work in the dissecting-room and the clinic, showing that enteroptosis and visceroptosis are in most instances congenital. Formerly the surgeons here operated upon a great many conditions of the viscera which did not turn out well, the benefit being very slight; in fact, with the possible exception of anchoring the kidney, these cases were almost uniformly failures. The pendulum is now swinging in the other direction and we are letting these patients alone. Dr. Mayo was recently asked the question, "What do you do in cases of enteroptosis and

visceroptosis?" and he answered most emphatically, "I let them alone." I know of a number of cases in Louisville that have been operated upon at different times by various surgeons for visceral conditions, with no benefit. As Dr. Trawick brought out, if we expect to do anything in these cases we must do it in the early years of life, and not wait until later life when they have visceral conditions that are not amenable to surgical treatment. Some method may be evolved in the future by means of which we can benefit these patients, but at the present time the best thing is to let them alone.

Guy P. Grigaby: It seems to me that this is largely a question of eugenics. The father and son presented here to-night are almost identical in type. It appears to me that some law which would prevent the mating of such individuals would be a good thing. It would probably act as a stimulus to them to make better individuals of themselves, morally and physically, if they could be made to realize that they could never marry unless they were physically fit.

Jno. D. Trawick, (Closing): The question of treatment was not more fully gone into because of lack of time. It does not suffice, in these cases, to put them through an indefinite course of diet and calisthenics; there should be some definite object in view. It is a very difficult matter to outline the treatment unless one goes about it deliberately, carefully, and determined not to get out of the realm of the practical and the scientific. We are discussing a subject that is very close to the border line and gets into the sentimental before you know it, and the consideration of questions of this kind should be careful, deliberate and scientific.

The small boy presented here to-night is illustrative of the type of congenital ptosis. I would like to say that earlier in the history of this patient it was perfectly possible to make out the transverse colon lying just above the clavicle.

The second boy was operated upon five years ago for appendicitis, in a very violent stage, and it was possible in this case to see the colon crowded down in the pelvic bowel.

The man also represents the type of congenital ptosis. Truly, as one of the speakers has said, this is a problem of eugenics. If this boy is to be permitted to create his kind later on in life, let him be as fit as possible. It is possible to make something of the boy although he will never be perfect.

As to the direct application of mechanical appliances, this can be done with a great deal of comfort and a certain amount of improvement in nutrition.

I wish to thank the members for the interest they have manifested in the paper and for their discussion.

CLINICAL CASES.

VESICAL PAPILLOMA.

(REPORT OF CASE.)

By E. S. ALLEN, Louisville.

Papilloma is a benign growth resulting from a new growth of epithelial covered papillary processes, arising from the skin or mucous membrane. The seat of occurrence is upon the skin and mucous membranes, in glands, ducts and lining cysts. They take on the type of covering of the structure in which they originate. No matter what the situation of origin, the epithelial structures rest upon a modified connective tissue basis, which is supplied with blood vessels, nerves and lymphatics. There are three varieties of papilloma, according to tissue origin; (1) that type arising from the skin and covered with squamous epithelium, known as the skin wart; (2) that type arising from the mucous surfaces and covered with columnar or stratified squamous epithelium, known as the villous papilloma; and (3) that type originating in glands and cysts and covered with the type of epithelium lining those structures known as the intra-cystic type.

ETIOLOGY.

Papillomata are supposed to have as their etiological factor, irritation, either mechanical, bacteriological, or chemical. This irritation, acting as a stimulation to the epithelial cells, causes a too rapid growth. Very frequently, all that composes the stalk is a very faint stroma and the blood vessels; hence, the ease with which these villi are broken and hemorrhage. The vessels, as a rule, especially in the type occurring in the bladder, have little or no stroma and no muscular coat, which accounts for the very persistent bleeding when one of these villi are broken off.

Mechanical cell division is at a too rapid pace for innervation and specification of function. Cells pile up lawlessly, demanding nutrition and support; hence an hyperplasia of blood vessels and connective tissue. The base, or support, of a papilloma is not a new growth or tumor; it is a stimulation of cellular stroma for support of the rapidly growing epithelial structures.

Papilloma bears this relation to adenoma—it is an adenoma turned wrong side out. A papilloma has the epithelial surface exterior, with the blood supply and basic stroma on the interior. An adenoma has the epithelial structures on the inside, with the stroma and vessels on the outside. The tendency of an adenoma to undergo malignant changes is much greater, probably on account of the

adenoma, as a rule, arising from more highly organized structures.

Villous papilloma occur throughout the mucous surfaces of the body—in the gastro-intestinal tract all the way from the cardiac end of the stomach to the anus, and in frequency according to the distance from the stomach, being most frequent in the rectum.

HISTOLOGY.

There is some slight difference between the villous papilloma and the skin wart. The villi are made up almost entirely of long, slender, epithelial cells which surround and enclose a slender filament of connective tissue, with its blood vessels, as a stalk.

* SYMPTOMS.

A papilloma of the bladder may exist for years without causing any symptoms. Usually hemorrhage is the first symptom which suggests the possibility of a bladder growth. The hemorrhage occurs without apparent cause. Its onset is sudden and it sometimes disappears as suddenly as it comes; it is generally copious. The last urine passed contains more blood than the first. The blood is of a bright red color and contains clots. Such symptoms as these generally point to a bladder tumor. Very frequently fragments of the tumor—small villi broken off—may be found in the urine, which always points to a tumor. The cystoscope will, of course, clear up the diagnosis.

PROGNOSIS.

This is usually unfavorable, even in benign tumors. Infection sooner or later sets in, with cystitis and ulceration. There is always a tendency to malignancy.

The treatment in papilloma is operative.

REPORT OF CASE.

Two months ago I saw Mr. L., in consultation. He gave the following history:

Family History: Negative as to new growths of any type.

Personal History: Has always enjoyed good health except for an attack of lobar pneumonia several years ago. Has never suffered with any venereal trouble. Though 72 years of age, he has never had trouble in urinating. Has never passed any blood. About three days before I saw him he appeared at the office of his family physician with retention, of twelve hours standing. A catheter was introduced and about thirty ounces of bloody urine withdrawn. The physician saw him the following morning and again inserted the catheter, with the same result as on the previous evening. He saw him again in the evening and irrigated the bladder, the urine continuing to come away blood-tinged. The following morning upon intro-

during the catheter, no urine could be obtained. The catheter would become obstructed with blood. I was asked to see the case and found the bladder well distended, being palpable above the pubes. Rectal examination, with the history, pointed to a large blood clot in the bladder, which was the conclusion reached by the family physician.

The patient was operated upon two hours later by suprapubic incision, with evacuation of the clots, disclosing a villous papilloma, about the size of a hen's egg, located near the trigone on the left, about an inch to the outer side of the ureter. The tumor was lifted up by grasping it at its base, which was pedunculated. A purse-string suture of No. 1 twenty-day catgut was placed one-quarter of an inch from the base and the tumor excised with a knife, tying the purse-string and inverting the cut surface of the wound. A drainage tube was placed in the suprapubic wound and a catheter in the urethra. Irrigation at intervals of three hours with boric acid solution was instituted. The patient was placed in a rolling chair in a couple of days and has made a very nice recovery.

DISCUSSION.

O. H. Harris: Blood in the urine may be the result of any one of a number of conditions, and it takes a man of considerable experience to differentiate between them. I remember a case I had some time ago in an elderly man, who had been passing bloody urine for a considerable length of time, and finally his bladder became distended. A surgeon was called to see him, and he did a suprapubic cystotomy, drained him out for a week or ten days, and then removed the tumor.

Blood in the urine after the bladder has become infected is always a very dangerous thing, but before that time the difficulty is to tell where the blood is coming from, and the only diagnostic point of value is sudden and copious hemorrhage. Otherwise, it is necessary to catheterize the ureters in order to tell whether or not the blood is coming from the bladder.

W. C. Dugan: This is a very interesting case. The diagnosis of a villous tumor of the bladder is, as a rule, very easily made, with our present methods of exploration. However, the cystoscope in the hands of an inexperienced man is often very puzzling. A number of years ago, when the cystoscope was first introduced in this city, I had a case in a man who gave a typical history of villous tumor—painless urination, urine uniformly colored, etc. More to gratify my curiosity to look at the case through the cystoscope than anything else, I introduced the instrument and was sure I could see a pedunculated tumor. The case dropped out of my hands for some reason or other and was operated upon, on my diagnosis, by one of my colleagues, who

found no tumor in the bladder. The man died shortly after operation, and, upon postmortem it was found that he had been bleeding from a papilloma in the pelvis of the kidney, and what I had seen was the shadow of the bloody urine coming down through the ureter. Of course that would not happen in the hands of an experienced cystoscopist.

I wish to mention one point in regard to treating inoperable vascular tumors of the bladder. Of course, under ordinary circumstances the operation would not be so hurried as in Dr. Allen's case. In his case there was an emergency that had to be met. A number of years ago I saw a gentleman about 50 years of age, who had bled so long that he was too weak to sit up without swooning. I believe he was the most anemic man I have ever seen. He had been under the care of a number of Louisville doctors. I was then a very young man, and I suppose that, having tried a good many of the older men in town, he had concluded to give the younger ones a chance. I made diagnosis of a villous tumor such as the doctor has shown here. I fancied I could almost see, in my mind's eye, a tumor the size and shape of a ghirking, such as pickles are made of, with a small pedicle. I improvised a Trendelenburg table, opened the man's bladder from above and, to my great astonishment, there was no pedunculated tumor, but a broad villous growth springing from the whole of the trigone, came into view. The man's condition made it impossible to remove such a growth. The base was as large as any other portion of the tumor, occupying a space, I should say, more than an inch across or a circumference of about three inches. This condition is sometimes called a "vesical hemorrhoid." Wishing to do something, but without any hope of relieving the condition, I introduced a T-shaped drainage tube. The next morning before leaving for my home, the patient called me to his bed and asked me what the result of the operation had been. I predicted a fatal termination. I changed the dressing and, to my great astonishment, it was stained with normal urine. The tube was filled with urine and it was not even tinged with blood. It was evident that he was not bleeding and that I had talked too much before changing the dressing. The man got well and never bled from that time until he died a few months ago from pneumonia. Now, why did the hemorrhage stop? Obstetricians say that a contracted uterus cannot bleed. May not the same be true of the bladder? The arrangement of the muscular fibres of the bladder is such that when it contracts it strangles the blood vessels, and I consider that to be the logical explanation of the cessation of bleeding in my case.

You will say: "Well, maybe the tumor did not disappear." In answer to that I will say that I had occasion to open the bladder some six or eight months later to remove a stone formed

around one of the stures and the tumor had entirely disappeared.

I report this case simply to call attention to the method of dealing with inoperable vascular tumors, with broad bases, by means of drainage.

E. S. Allen, (Closing): As stated in the report, I operated upon this man to relieve a blood clot in the bladder, suspecting a malignant condition rather than a benign papilloma. Several years ago I had a similar case of bleeding in which I suspected papilloma, but upon operating found a multiple carcinoma of the bladder. There were fifteen or twenty of what appeared to be little villous papillomata that had undergone carcinomatous degeneration, very much indurated and infiltrated. I put in a drain but this man died in the course of a short time.

CEREBROSPINAL MENINGITIS.

(REPORT OF CASE.)

By DONALD K. CLARK, Louisville.

In this report this evening I have chosen those cases which I consider of the most interest, and which are illustrative of the various types of cerebrospinal meningitis as seen in the late epidemic in this city.

I have taken up the cases individually, touching upon the more important symptoms, the character of the spinal fluid, the amount of serum used, end result, etc. I am not going to take up the treatment in detail, but will say that each case, in addition to the serum, received urotropin in appropriate dosage, as well as various symptomatic remedies.

The clinical diagnosis was confirmed microscopically in each case by Dr. Vernon Robins, of the City Board of Health.

CASE I.

T. M., male, colored, age 8, admitted to the Emergency Hospital, March 2nd, being the first patient received. On examination the patient presented the following symptoms: Slight retraction of head, mild delirium, marked Kernig's sign, hyperesthesia and herpes labialis. A lumbar puncture was then made. The fluid obtained was rather cloudy and under slight pressure. About 40 c.c. of the fluid was then withdrawn and 20 c.c. of the serum administered. This patient made marked improvement after the first dose. In all, he received 80 c.c. of the serum, being discharged March 13th, with recovery complete. This was a very mild case.

CASE II.

L. H., female, white, age 12; admitted to the hospital March 7th. This case presented a very marked retraction of the head, positive Kernig's sign, extreme delirium, marked hyperesthesia, labial herpes, and absolute deaf-

ness. Temperature (axillary) 101.5; pulse 110; respiration 28. A lumbar puncture was immediately made, the fluid withdrawn being very cloudy and under a good deal of pressure. Twenty c.c. of the serum were administered as the initial dose, the patient receiving 120 c.c. of the serum altogether. The patient developed an acute nephritis during the course of the disease. She was discharged from the hospital March 28th, the nephritis having cleared up, but still being absolutely deaf. I was not able to follow the case after she left the hospital.

CASE III.

T. N., male, white, age 28, admitted to the hospital March 16th. This man was employed as a news agent on one of the railroads. During the day he had developed symptoms of the disease and was brought to the hospital late in the day. On admission he complained of intense pain in the back of his head, slight retraction of the head, stiffness of the neck, and some hyperesthesia. The spinal fluid obtained was rather cloudy but under no pressure. Highest temperature was 100 degrees F.; pulse 80; respiration 20, and the lowest 97 degrees, 64, and 18 respectively. This patient received a total of 80 c.c. of the serum. He made an uninterrupted recovery and was discharged March 24th, completely well.

CASE IV.

T. M., male, white, age 43, admitted to the hospital March 16th, profoundly unconscious. He presented marked retraction of the head, Kernig's sign, and later delirium and hyperesthesia. The spinal fluid was very thick and cloudy but not under very much pressure. Highest temperature, pulse and respiration, 101 4-5, 160, and 50 respectively. This patient received, in all, 100 c.c. of serum but grew steadily worse and died March 26th.

CASE V.

A. M., male, white, age 15; admitted March 18th, unconscious. This patient presented marked retraction of the head, Kernig's sign and herpes. The spinal fluid was very cloudy and under marked pressure. The patient had received 20 c.c. of the serum just before being sent to the hospital. This was repeated about 12 hours after admission. He developed a lobar pneumonia almost immediately after admission and died the following day.

CASES VI AND VII.

R. F. and Wm. F., males, white, brothers, aged respectively 3 and 11, admitted March 20th. These cases were practically identical, both having marked retraction of the head, Kernig's sign, herpes and delirium. The younger, in addition, had an internal squint.

The elder complained of double vision, but I think his statements were rather unreliable. The spinal fluid in both of these cases was cloudy but not under pressure. They each received 80 c.c. of the serum and were discharged March 29th, recovery being complete.

CASE VIII.

R. M., male, white, age 18 months; admitted to hospital unconscious. This case presented slight retraction of the head, slight Kernig's sign, unequal pupils, and herpes labialis. The child, in addition, had a marked bronchopneumonia. The spinal fluid was cloudy and not very abundant. I gave the child 20 c.c. of the serum. The child grew progressively worse and died 20 hours after admission. I was unable to determine in this case which of the two conditions was primary.

CASE IX.

T. D., male, white, age 55; admitted to hospital April 1st. This was not a very well-marked case. The patient complained of pain in the back of the head, stiffness of the neck and some retraction of the head, with a slight temperature. Typical diplococci had been found in the spinal fluid prior to his admission. He received his first dose of the serum after he had been in the hospital twelve hours. The spinal fluid was rather cloudy but under no pressure. This patient received, in all, 80 c.c. of the serum, and was discharged April 10th with recovery complete.

CASE X.

L. B., female, white, age 30; admitted April 3rd. This patient was extremely delirious and had all kinds of fantastic hallucinations. She had slight retraction of the head and marked Kernig's sign. The spinal fluid was very cloudy but under no pressure. The patient received 80 c.c. of serum and was discharged April 11th, with complete recovery.

CASE XI.

J. M., male, white, age about 21. This case was one of the fulminating type. The patient's father gave me his history as follows: The patient was sitting at the breakfast table when he gave a sudden start, and putting his hand on the back of his head said he had a sudden intense pain there. Immediate prostration followed, and he was brought to the hospital about 5 p. m. The patient was now intensely delirious, with practically no retraction of the head, and no other symptom of meningitis save vomiting, which did not seem to be of the so-called "projectile type." The appearance of the cerebrospinal fluid was, however, rather characteristic. It was very cloudy, and under enough pressure to cause it to spurt a distance of two or three

feet. Thirty c.c. of the serum were then administered, but the patient died about five hours after admission, approximately eleven hours after the onset of the disease.

CASE XII.

S. G., female, colored, age 32; admitted March 31st. This patient complained of intense headache and nausea. There was slight retraction of the head, rigidity of the neck, herpes and Kernig's sign. The patient was at no time delirious or unconscious. The spinal fluid was slightly cloudy and under a little pressure. This patient received 80 c.c. of the serum, and was discharged nine days later with recovery complete.

These cases cover, I think, the more common types of the disease. I had two of the so-called "dry canals." One case recovered and the other died. I made any number of post mortem punctures, but was never able to obtain any fluid.

DISCUSSION.

Vernon Robins: I wish to speak to one feature of this subject in particular. There is no question that the series of cases treated at the Emergency Hospital demonstrated the efficiency of the anti-meningitis serum. The epidemic that we had here created a great stir, which was, I think, to a large degree unnecessary. Some physicians were, literally speaking, panic-stricken, and they communicated their panic to their patients and succeeded in bringing about a very sad state of affairs. Each year we have quite a large number of deaths from meningitis, most of which are probably of the cerebrospinal type. There have been years in which the total number of deaths from meningitis was considerably larger than during the late epidemic. This year, however, a rather dramatic feature attended the opening of the epidemic. I refer to the two children who were at first supposed to have been poisoned by something they had eaten. Another feature of this epidemic which gave it an unnecessarily serious aspect was the routine examination of the spinal fluid and the employment of the intraspinal treatment, which hitherto had been done rather infrequently if at all. It was necessary for even some of the surgeons to learn how to make a spinal puncture properly. Some of the older surgeons frankly stated that they had never made one and knew nothing about it. Such circumstances, of course, gave rise to a great deal of apprehension at the outset.

The chief object of my discussion to-night is to emphasize the needlessness—indeed, the harmfulness—of the panic with which some of the physicians were seized at the time of this epidemic.

The epidemic was characterized by two types of the disease; (1) that which was rapidly fatal

and (2) that which, although running a severe course, later on became convalescent. The mortality, if I remember correctly, was about 39 per cent.

The outlook for next winter is, perhaps, not entirely satisfactory. The disease is more apt to make its appearance at the close of the winter, but we recognize now, as we did not heretofore, that healthy carriers of the disease are not few in number. This adds to the seriousness of the outlook.

I am very glad indeed to have heard Dr. Clark's paper.

W. A. Jenkins: ' would like to ask one practical question which the doctor's remarks about the dry type of canal brought to my mind.

I should think it would be very easy for adhesions to take place between the inflamed surfaces of the membranes of the spinal canal, and perhaps shut off a certain portion of the cord, although a great deal of fluid might be obtainable above this point. I would like to ask Dr. Clark whether one particular anatomical site is always selected for the puncture.

E. S. Allen: I hardly see how it is possible to have a dry spinal canal in this condition. We know that wherever we have an infection the inflammation creates a disturbance and sufficient toxin is generated to cause Nature to throw out cellular elements and enzymes as protective substances, and in a case of meningitis I can hardly see how, with bacteria present in the canal creating a disturbance and generating toxin, and causing all the typical meningococcal symptoms, we could have a canal with no fluid in it. I can understand how we might have a limited amount of fluid in cases where we have blocking of the canal by the inflamed membranes becoming adherent. Furthermore, the increased intracranial tension caused by this condition would account for the marked pain of which these patients complain. Again, if we withdraw too much fluid from the spinal canal, we have a sudden slapping down of the medulla against the base of the brain, producing an acute anemia, a similar condition to that which is produced when we aspirate the cord in brain tumor.

I would like to mention a case that I saw in consultation. The doctor, after several attempts to make a lumbar puncture, without success, came to the conclusion that he was dealing with a so-called dry canal. Upon introducing the needle further, in a last effort to secure some fluid, the patient moved and the needle was broken off, and I was called to remove the fragment. In doing so I found that the needle, instead of going into the cord, had passed between the lamina just back of the cord and missed it entirely. While I know that Dr. Clark must have become expert in making lumbar puncture, having done so many of them, still this gentleman I speak of had also made quite a number, and we can readily appreciate how easy it is to miss the spinal canal

entirely if the needle be introduced at the wrong angle. In this case he missed the cord probably 1-8 or 1-4 of an inch. Therefore, I believe that, in a good many instances of so-called dry canal, the cord has been missed in making the puncture.

I would like to ask Dr. Robins whether he has ever employed vaccination with meningococcal vaccine as a prophylactic measure. Cases reported in recent literature show that comparatively few persons thus vaccinated develop meningitis, and where the disease does manifest itself, it runs a very mild course.

Vernon Robins: Answering Dr. Allen's question, I will say that we have had no experience whatever in vaccinating against cerebrospinal meningitis.

In regard to the so-called dry canals, we have seen—as you are sure to see in all epidemics of this kind—fluids of various kinds drawn from the spinal canal. The most common type is a very watery fluid with some pus in it, but not infrequently we see a very thick, syrupy material coming from the source of infection. Of course, it is a much easier matter for a fluid of the latter type to become obstructed in its efforts to get to the lower part of the canal, and the ordinary needle will fail to withdraw it. In one case in which we at first failed to get any fluid, by persistent pumping, pulling back on the syringe several times, we finally managed to get a little thick gummy fluid. Therefore, it is clear that if the fluid in any particular case is of the thick, tenacious character, we are not going to be very successful in our efforts to empty the spinal canal.

Donald K. Clark, (Closing): Answering Dr. Jenkins, I will say that we have practically always selected a point between the third and fourth lumbar vertebra for spinal puncture, but in a number of instances where we found it difficult to obtain fluid, we have gone as high as the tenth dorsal, and in one instance in the region of the seventh cervical. I have never seen any bad results from this procedure in any case. Dr. Jenkins' theory about the membranes becoming adherent and closing off the lower part of the canal in some instances, is probably correct. In one case, however, I went up into the canal as far as I could get, and I am satisfied that there was absolutely no fluid in it. I have seen only two dry canals out of 70 to 75 cases.

Ap Morgan Vance: Were any autopsies made?

Donald K. Clark: I did not have any facilities for making autopsies and I do not think any were made.

Just a word in regard to Dr. Allen's remarks about it being an easy matter to miss the canal. In my first few cases I had quite a little difficulty in getting into the canal. Unless we have the patient in the proper position, it is a mighty easy thing to miss the canal. Two methods are recommended; one slightly to the side of the median line and the other directly through the median line. I have had greatest success with the latter

method. I have aspirated a number of cases in which I was unable to get a drop of any kind of fluid, except possibly just a little blood upon pulling the needle back, which I think came from the skin puncture.

EMBRYONIC MIXED TUMOR OF THE KIDNEY.

(REPORT OF CASE.)

By WM. H. WATHEN, Louisville.

Miss B., aged 12 years, was operated upon at St. Anthony's the 9th day of July, for an embryonic mixed tumor of the left kidney. The tumor extended over far to the right side, to the pelvis and to the diaphragm. The case was referred to me by Dr. E. S. Grasser, who was the attending physician of her and her mother, but neither of them had called his attention to any enlargement in the abdomen, and the tumor was observed by him only six days before the operation while making an examination to find a cause why she had had no stool for nearly a week after taking much purgative medicine. The mother had observed for several weeks that the girl's abdomen was enlarging, but did not suspect a tumor. She had but little pain in the abdomen at any time, but for several weeks was unable to get a good bowel movement unless she took an active purgative. She was losing flesh for three months and was not as large or as well developed as the average girl of her age. Her bladder action was about normal, as was the character of the urine as shown in a chemical and microscopic examination. At no time had there been any blood in the urine. For three weeks before she was operated upon she had pains in her legs and could not walk well. This her mother believed to be caused by rheumatism. The tumor was hard, and as it was not attached to the anterior abdominal wall, was movable to a limited degree. The following is the report of the findings of Dr. E. F. Horine in his blood analysis:

Erythrocytes 2,144,000; leucocytes 13,800; polymorphonuclear neutrophils 83.6%; lymphocytes 12.4%; transitional forms 3.7%; eosinophiles not present, basophiles 3%; very few platelets observed.

An incision was made through the left rectus muscle and the tumor well exposed. While there were no attachments to the anterior wall, the tumor had become so adherent to the intestines, the attached descending colon in front of it could not be removed, as is so often the case when there is much delay in operating for embryonic mixed tumors of the kidney. It required large doses of calomel to get bowel movements after the operation, but otherwise she did well and left the hospital in less than two weeks. She continued in the care of

Dr. Grasser and died six weeks after the operation.

Embryonic mixed tumors of the kidney are always in children under 15 years old, and more than 50% in children under the age of 3 years. They nearly always arise in the parenchyma of the kidney, but do not infiltrate the kidney, as other malignant tumors do.

The pathogenesis of these tumors is obscure, but Wilson's theory that the growth is due to inclusions of the myotome and similar structures has received the most support. They are intensely malignant and of rapid growth. The patient seldom lives one year after the diagnosis of the kidney involvement, and 50%, with or without operation, die within six months. They do not cause haematuria in more than 5 to 10% of the cases, because the growth of the tumor is more extrusive, or evasive, and does not often invade the calices or pelvis of the kidney, which hypernephroma, carcinoma and sarcoma nearly always do at some stage of their growth. Embryonic mixed tumors of the kidney are of rapid growth, and may form such attachments to the colon, intestines, and other abdominal viscera, that they are usually inoperable unless treated in the early stages. These tumors were formerly confounded with sarcoma, but it has been shown by modern pathology that sarcoma, carcinoma, or hypernephroma seldom or never develop in the kidney in childhood, and rarely before the age of 20, and such cases reported are clinical and pathological errors.

Embryonic mixed tumors of the kidney are more frequent than all other malignant tumors of the kidney combined, in children under the age of ten years, and hypernephroma of the kidney is five times more frequent between the ages of 20 and 60 years than carcinoma and sarcoma combined. Sarcoma of the kidney was, until ten years ago, believed to be relatively frequent in early childhood, but most of these cases were manifestly embryonic mixed tumors. Rhabdomyonephroma should not be confounded with embryonic mixed tumors of the kidney, for it does not appear in early childhood, is rarely seen, and the history and symptoms are in no sense identical.

Metastasis has been observed in about 20 per cent. of embryonic mixed tumors of the kidney, but it is usual in delayed cases of hypernephromata. Histogenetically and pathologically, hypernephromata may be classified as mesotheliomata developed from embryonic tissue, which while isolated is surrounded by structures developed from similar tissue. This is probably a reason why these tumors develop only in adult life. In Wilson's 34 cases pathologically examined, all appeared

between the ages of 30 and 64 years, and 13 of these between the ages of 50 and 60 years.

DISCUSSION.

Louis Frank: I have enjoyed Dr. Wathen's report very much indeed, but I believe that the differentiation between embryonic mixed tumor and hypernephromata, sarcomata and carcinomata, is rather of academic interest than of actual practical value with respect to the treatment of these conditons. I would like to ask Dr. Wathen to tell us, in closing, in what respect is the similarity between embryonic mixed tumors, hypernephromata and sarcomata so close, histologically, as to make one liable to the errors he speaks of having been made?

Wm. Wathen. (Closing): Answering Dr. Frank's question, I will say that mixed tumors always occur in children, more than 50 per cent before the end of the third year. A very few occur after the sixth year, and probably none in children of 15 years or more, although a few such cases (probably erroneously diagnosed) have been reported. As a rule, the first indication of a mixed tumor is an accidentally observed enlargement of the child's abdomen. There is haematuria in about 6 per cent of cases. They die quickly, 50 per cent within the first six months, whether operated upon or not. They all die within one year, and those cases reported as having lived more than one year after discovery of the tumor were probably erroneously diagnosed. Hypernephromata, on the other hand, never occur in persons under twenty years of age, or at least, under fifteen. They are of slow growth, the patient usually surviving from two to five years after the beginning. In the case I reported to this society in December, the haematuria began five years ago, then disappeared for a while, then recurred, and so on until it finally became almost continuous. Unlike mixed tumors, hypernephromata are not of rapid growth. Practically all cases of hypernephromata have haematuria.

The diagnosis must be made from the history of the case, supplemented, of course, by physical examination. Microscopically, there is not much difference, because both growths very closely resemble in microscopic appearance, a sarcoma. Watson and Cunningham give a very good description of these tumors. The pathology, while not entirely worked out, has been carried on sufficiently to show that both types of growth partake, in their pathological histology, of the character of a sarcoma. Therefore, I claim that probably all cases of sarcoma reported in early childhood are simply cases of mistaken diagnoses, and that they are really embryonic mixed tumors, and I believe this statement will be borne out by future investigation.

A REPORT OF TWO CASES OF NASOPHARYNGEAL POLYPS.

By GAYLORD C. HALL, Louisville.

CASE I.

This case is of interest on account of the mistaken diagnosis and the number of operations the patient was forced to undergo without any relief. The history is as follows: E. E. Von R., age 35, white, male, married. Trouble with the nose had existed for years. The left side was stopped up at all times. On forced inspiration a small volume of air could be obtained, but on expiration the stoppage was absolute. This, it seems, would have been sufficient to have made a diagnosis, though it was apparently not considered seriously in his previous operations, nor by myself during the first operation.

He was operated on first in 1892, in Butte, Montana. The inferior turbinates were cauterized with the galvano-cautery and the tonsils removed. This, however, did not clear up the trouble on the left side of the nose. In fact the patient thought he slowly became worse. Nothing more was done for several years, when the patient consulted an eminent rhinologist of Chicago, who removed the adenoids and snared off the posterior end of the inferior turbinate. These procedures likewise failed to relieve his trouble and the chiseling of a bony spine off the posterior portion of the septum was advised and declined, the patient being about to leave Chicago. He consulted me on October 10, 1907. Examination of the nose showed a thin, narrow nose. Right side of the nose free, turbinate not engorged. Left side of nose apparently free along the inferior turbinate except for a small projection on posterior portion of the septum already referred to. However, it was possible to look beyond this to what was apparently the posterior wall of the naso-pharynx. The middle turbinate on the left side was enlarged and pressed for its whole length against the septum. It was practically impossible for him to blow the left nostril, though a fair amount of air could be taken in on inspiration. An examination of the throat revealed the remains of tonsils now submerged, with diffuse redness over the whole pharynx and a granular condition of the posterior wall. An examination of the naso-pharynx was attempted, but it was impossible to use a mirror, as the slightest attempt caused retching. I therefore refrained from inserting my finger in the naso-pharynx out of consideration for the feelings of the patient, and there is where I made a serious mistake, for I feel that I done so at the time I would have saved the patient an operation and its attendant inconvenience.

He came to have the spine on the septum removed, but I assured him that this could hardly be the sole cause of his difficulty and advised the resection of the middle turbinate.

On October 15th I removed the middle turbinate and the bony spine on the septum with very little trouble and the patient was able to blow his nose at the conclusion with comparative freedom, though not without effort. I was puzzled at the time, but thinking that things would right themselves I did not proceed farther, but packed the nostril as much to prevent adhesions as to control hemorrhage. After twenty-four hours the packing was removed and a long paraffin splint inserted. This of course necessarily prevented very free respiration on that side so that the result of the procedure was in doubt. However, on removal of the splint his condition was very very little if any better than before. After waiting several days with no improvement I again thoroughly cocaineized the nose, on October 26th, for further operative procedure, as I supposed an adhesion between the posterior part of the septum and the inferior turbinate had taken place. Careful inspection of the now shrunken nasal structure failed to reveal any adhesions and I inserted my finger into the naso-pharynx for a possible solution of the difficulty. On the left side my finger encountered a large, smooth, soft mass, the nature of which I was unable to determine, but which was apparently attached to the upper, outer wall of the naso-pharynx. I want to confess that even at this point I did not suspect the large solitary naso-pharyngeal polyp as being the cause and can only plead in extenuation that two other men had likewise failed to discover it. My attention was now directed to the examination of the nose and I now discovered that what I had taken for the posterior wall of the naso-pharynx was the anterior surface of this growth.

The difficulty of examining the naso-pharynx and the fact that the growth moved when the patient said "K" or "enekoo," led me into this error. On passing a thin-bladed instrument through the nose for the purpose of determining the extent of attachment of the growth, it was dislodged and fell into the pharynx and so out of the mouth of the patient, much to his delight and with entire relief of all his symptoms.

The growth was pear-shaped and measured 1x3-4 in. It was evidently freely movable and by its valve-like action completely blocked the left side on expiration, but by falling into the naso-pharynx permitted a small amount of air to pass on inspiration.

The growth had evidently been present for years and should have been discovered long before it was, and I feel that it taught me a lesson that I shall not soon forget.

CASE II.

Mr. J. R. W., July 10th, 1911. Referred to me by Dr. Kiefer. Has had an obstruction in nose for some time, worse on right side. On bending forward or blowing nose hard right side completely closes. On leaning back ward or lying down has a sensation of something dropping backward.

EXAMINATION.

Anterior nares right side, free. Left side obstructed by an angular deflection of septum and corresponding engorgement of turbinate. Sinuses clear.

Examination of naso-pharynx shows the whole right side obstructed by a large pale growth. After shrinking could be seen on floor of nose through anterior nares. Seemed to be attached under posterior end of middle turbinate. Removed under cocaine without hemorrhage.

This growth is larger than the other and flattened on one side. It measures 1 1-4x7-8x 1-2 inches.

The patient had immediate relief of all symptoms and there has been no tendency to recurrence to date.

These cases are in every particular different from the usual polypoid condition in the nose resulting from chronic suppurative of the sinuses. It is my opinion, however, that these growths have their beginning in a suppurative process and while the rest of the membrane recovered the impulse that started growth in the first place is sufficient to carry on the nutrition of the already started polyp.

DISCUSSION.

J. M. Ray: My experience is that these cases are not very uncommon. I frequently see cases of single polyps growing from the under surface of the middle turbinal fossa and back-tracking into the naso-pharynx, and by their own weight filling up with serum and producing pedunculated masses in the naso-pharynx. I operated on one of these cases last Saturday; it took only a few minutes to do it. In this case the mass filled the whole naso-pharynx. When I cut off the pedicle the mass dropped into his mouth and he spit it out.

In my opinion, a single nasal polyp may occur without the presence of accessory sinus disease. However, in practically every case of multiple polyp, where the whole under surface of the middle turbinal seems to be undergoing polypoid degeneration there is accessory sinus disease. Which is the cause and which is the effect, we do not know.

As I said, in my experience, single nasal polyp is not an uncommon condition. I think I have five or six in my office which have been collected in the last two or three years. However, I do be-

lieve that, when they grow in the manner outlined by Dr. Hall, they are sometimes overlooked. The man I operated upon last week had been seen by a nose and throat doctor in one of the smaller towns of this State who had failed to detect the growth. However, close attention to the points brought out by Dr. Hall in his report will usually make the diagnosis quite easy.

The easiest way to remove these growths is, not by means of a snare, because it is difficult to get the snare wire back into the naso-pharynx and around the growth. After thoroughly cocaineizing the nose, I take a plain hook and move the growth up and down until I find out where the pedicle is; then slip the hook around the pedicle, give it a quick jerk and the growth drops down into the throat. There is practically no hemorrhage.

These growths are not likely to recur but they sometimes do.

I used the Holmes pharyngoscope on this case last Saturday but I do not think it helped me any: I can do just as well by taking an applicator and feeling the growth and moving it around.

S. G. Dabney: I agree with Dr. Ray that this condition is not rare. Just a word or two about the diagnosis. I think that, in the very great majority of cases, we can make satisfactory examination of the naso-pharynx by means of the ordinary posterior rhinoscopic mirror if we will cocaineize the posterior wall of the pharynx. Personally, I use with a great deal of satisfaction the White palate retractor and have found it an exceptional occurrence not to be able to pull the soft palate forward. I put a ten per cent. solution of cocaine on the pharynx and soft palate, drawing the soft palate forward with the retractor (the lips being closed, but not the teeth until the patient learns to breathe easy and tolerate the instrument) and teaching the patient to breathe quietly, and I find it very rare not to be able to obtain a good view of the naso-pharynx.

The subjective diagnostic points have already been alluded to. Very frequently the growth does not bob up and down; I have seen a good many so tightly wedged that they could move very little indeed.

I have seen two or three cases which presented some unusual features that might possibly be worth mentioning. In one case that I saw, in a child, there was a large post-nasal polyp on each side, which is a very unusual occurrence in children. My first diagnosis would have been adenoid growth, but it proved to be a polypoid growth, hanging back in the post-nasal space.

One case that I do not think I will ever forget was one that was sent to Dr. Dugan many years ago, and he was kind enough to refer the man to me. This was a colored man, between 35 and 40 years of age. When I saw him he was in the last stage of emaciation and was walking with a cane. He had cachexia of the

type that we usually see in far advanced malignant disease. I looked into the man's mouth and my first impression was that he had two tongues. He had a large red mass lying on top of the tongue which looked for all the world like a second tongue. Then this mass disappeared dropping back into his throat, and for a time he could talk a little better. He gave a history that something had been growing in his throat for years. Sometime before he had begun to vomit, and had vomited almost everything he ate every day. It was this that had caused him to become so weak and emaciated. I examined his throat a little more closely and found a very firm mass hanging down in the oesophagus. Every now and then he would vomit it up and it would lay on his tongue for a little while and then drop back. I have never seen a case like it. The mass was very firm and vascular looking, and I was afraid to remove it by ordinary methods. I used an electro-cautery snare and burned it off. If my memory serves me correctly it was nine inches long.

I have rarely seen these growths recur. Like Dr. Ray, I think a single nasal polyp does not usually indicate disease of the accessory sinuses, but multiple polypoid growths about the nose itself generally mean ethmoid disease.

W. C. Dugan: Just a few words in regard to the case mentioned by Dr. Dabney: A good many years ago when I was holding clinics at the City Hospital, Dr. Stedman called me up and asked me if I would like to have a case of sarcoma of the tongue for my clinic. I had already made up my clinic for the day, but as the man had come here from the country, I told him I would remove the tongue. He sent the patient up to me, and the question came up as to whether or not the case was an operable one. The man seemed to be in an advanced stage of malignant disease, and could not talk. Unfortunately, he did not swallow the growth during my examination. I made a careful inspection of the neck to see whether or not there was any lymphatic involvement, to enable me to decide whether or not to attempt to remove the tongue. I never in my life saw such distress as was evident on this man's face. Very fortunately for the patient, during my efforts to ascertain how far the growth extended from the surrounding structures, I chanced to spy the tip of the tongue, and the diagnosis was then very easy. I sent him to Dr. Dabney who has told you the further history of the case.

This man weighed, normally, about 200 pounds, and he had dwindled down until he was the mere shadow of his former self and could hardly walk. I shall never forget the case, nor the look of distress upon this man's face when I saw him.

Gaylord C. Hall, (Closing): I wish to say again that I did not show these cases as medical curiosities, but in order to bring out the fact that we are very apt to make mistakes with re-

spect to the early diagnosis of this condition. As to the frequency with which these cases occur, I can only hope that when my limited experience shall have reached the proportions of that of Dr. Ray or Dr. Dabney, they will be frequent in my practice also. At present they are rather rare.

The removal of these growths presented no particular difficulties. In each instance I removed the growth with the little hook knife that we usually use for removal of the turbinal. In neither case has there ever been a sign of recurrence.

In regard to the site from which these tumors most frequently grow, I did not make the statement in my report that they grow from the nasopharynx. In each of the cases reported, the growth ran under the shelving edge of the posterior portion of the middle turbinal, and probably had its inception in some infection of the posterior ethmoidal cells.

Regarding the naso-pharyngoscope, I think that in the first case this would have helped me materially. This man was a peculiar individual. The minute one would approach him with a tongue depressor, he would begin to retch, in spite of the application of cocaine and instructions in regard to deep breathing. After spending one or two afternoons in a vain attempt to get a view of his naso-pharynx, I had to give it up. There are such cases. They are rare, it is true, but every once in a while we run across one of them. If, in the first case reported, I had been able to obtain a view of the naso-pharynx, or if I had introduced my finger, I am sure I would have had no difficulty in making the diagnosis.

MEDICAL PROGRESS

DEPARTMENT OF GENERAL SURGERY.

By ALBRO L. PARSONS, GUY P. GRIGSBY,
Louisville.

I.—BISMUTH PASTE USED IN SURGERY.

E. G. Beck, *New York State Journal of Medicine*, August, 1912.

Beck attributes the unsuccessful results that sometimes follow the use of this remedy, to the fact that a few cardinal principles are not followed in its administration.

He believes that if the following rules are adhered to, the unsuccessful cases will be less frequent:

1. After a sinus has been injected with the paste, a radiograph should be taken before any operative procedure; this will exclude operation on inoperable cases.

2. Do not use single plates but stereoscopic radiographs for diagnostic purposes.

3. Errors are often made in too frequent injections of the paste. After the first in-

jection a week should elapse. It is important to note the discharge at the end of that time; if it continues purulent repeat the injection; if it has changed to a serous one it should be deferred.

4. It should not be used in very acute cases.

5. Where a foreign body is present, a piece of diseased tissue, or a sequestrum is at the bottom, the use of the paste will be without a favorable result.

6. Fill every part of the sinus tract at the one time, or else it will do no good.

7. If several openings exist inject in one only and when the paste begins to emerge from the other openings stop them with the tips of the fingers so that the paste will be forced into all of the tracts.

Keep in mind the fact that bismuth poisoning is a possibility. If the rules are carefully observed this will be avoided. Watch for the appearance of blue ulceration of the gums, diarrhea, and emaciation. If poisoning does occur it can be stopped by the following:

Wash the cavity of the sinus with warm olive oil. Fill the cavity with the same substance and retain it for twenty-four hours and withdraw it with suction. Wash the sinus daily with olive oil until the symptoms have disappeared.

The use of large quantities of the paste to fill cavities of unusual size is often the cause of poisoning.

Scraping the walls is to be condemned as it will only increase the symptoms.

The blue line alone does not mean poisoning but shows the systemic effect, and is a warning to discontinue the injections.

G. P. G.

II.—THE TALMA OPERATION FOR CIRRHOSIS OF THE LIVER.

Surgery, Gynecology, and Obstetrics, September, 1912.

Under the above title Edgar A. Vander Veer, gives the history, results of the operation, and reports three cases.

The results of operation in the hands of the most prominent surgeons of this country, as collected by H. H. Grant, of Louisville, are as follows:

Seventeen, or 11% cured after three years. Seventeen, or 11% died as result of the operation.

Sixty-four, or 44% are reported as improved.

Thirty-two, or 22% are reported as unimproved.

Vanderveer observes that formerly only the hopeless and most desperate cases were subjected to the operation and as a natural consequence with poor results.

There have been several successful cases re-

ported in the past few years, that have again revived an interest in the operation. Despite the fact that the operation does not seem rational in theory, the duration of its trial and the success attending its employment, would recommend it as the operation of choice in dealing with this condition. He would urge that the profession should be educated up to the fact that the distressing symptom of ascites of the liver can be greatly ameliorated, if not cured, by operation, and that the earlier the patient reaches the surgeon the more favorable the result.

The operation is more successful in syphilitic and the alcoholic cirrhosis, than in the other forms, because these cases yield best to medical treatment after the stasis in the liver has been relieved and the liver cells can have the opportunity to regenerate.

Of the three cases reports; one died as a result of the operation; the other two were successful. It is interesting to note that one of the cases so regained his health that he was accepted for life insurance by two different companies.

He advises a median incision below the umbilicus, as this gives a good view of the abdominal content, and if a mistake in the diagnosis has been made it is easily detected. At the same time the liver and the spleen can be palpated. It allows the attaching of a greater surface of the omentum through the one incision. He condemns the practice, as in the Talma technic of the operation, of rubbing the liver with gauze to create adhesions between it and the peritoneum, because of the unnecessary injury to that organ.

General anesthesia is preferable as it allows more thorough inspection of the abdominal contents, and as the shock under present-day methods of administration is practically nil.

In conclusion, he states that he believes that omentopexy is a justifiable operation for cirrhosis of the liver; that the brilliant results of some of the operations would make it a rational procedure in the most desperate cases that may be complicated by cardiac, renal, or pulmonary disease.

The ideal technic under general anesthesia, consists of a median incision, below the umbilicus, suturing as much of the omentum to the abdominal wall as possible, drainage to be maintained at least one week.

G. P. G.

III.—THE OPERATIVE TREATMENT OF GASTRO-ENTEROPTOSIS.

Joseph Ransohoff, Cincinnati. *Boston Medical and Surgical Journal*, August, 1912.

Ransohoff believes that a great many of these cases are operable and in a lengthy article gives his reason for arriving at that conclusion. Where a great many men of large

experience and great authority in matters surgical hold out against operative interference, it requires conviction born of a series of successes to advocate the use of the knife, when other measures have failed. In extreme cases of this condition, which he terms "panoptosis," surgery offers but little, since this condition is congenital or easily recognized during the growing period of the child. The postural, combined with the mechanical treatment, if instituted early enough, must be of great benefit. Other cases in which the sagging of the abdominal or pelvic organs is associated with remote effects that hardly seem correlated. They are attributed for the main part to intestinal stasis. To this he also attributes the neurasthenic states that are so often associated with visceroptosis. While few have followed where Lane has led we are indebted to him for a clear, explicit pronouncement of the causes and dire results both local and general of fecal stasis. The variations of a fully developed adult visceroptosis are many, but he gives two conditions that he believes merit more attention than has been given them. The first is the insufficient fixation of the cecum and the ascending colon. The second is the relative high fixation of the splenic flexure of the colon with consequent sharp angulation at that point.

The fecal current is first arrested in the cecum after being rushed in a little more than two hours through many feet of small bowel, and it is here that stasis normally occurs. Without the proper support given by a normal fixation, "coccatony" as Fisher calls it is liable to ensue and with it all of the secondary local and general manifestations incident thereto. With delayed drainage the autotoxic symptoms become pronounced and finally neurasthenia is the outcome. As he aptly puts it, it is a far cry from mobile cecum to neurasthenia, but it is making itself heard. To illustrate this he cites a case. A woman came to him, a typical neurasthenic that had been treated for many ailments without any relief. Operation revealed a freely movable cecum that was partially obstructed at its upper part by an adhesion from this the cecum was enormously distended. The operation completely cured her of the pain, constipation, and neurasthenia.

He warns against the small incisions even in interval appendix cases for fear of overlooking the true cause of the patient's suffering. For the sagging transverse colon he uses as a routine the operation of colopexy as devised by Coffey. The operation to be effective, the suspension must be made, as far as possible, on both sides of the median incision. He divides the peritoneum, exposing the fascia, because it has been shown that peritoneal adhesions often stretch and some-

times disappear. The omentum is then fixed into these denuded areas by a continuous suture. The advantages of this operation is that it restores the natural, though always weak shelf-like arrangement of the transverse mesocolon, above which the stomach, so often prolapsed, is restored to place. No one operation is applicable to all the cases of ptosis of the colon. A careful study of a radiograph and then the actual conditions as seen through a large incision will determine the proper operative procedure.

Fixation operations of the cecum, transverse colon, or sigmoid, according to the indications, have in his experience sufficed and if performed early enough, will in his opinion, make unnecessary the decidedly more dangerous exclusion operations.

Gastroptosis is not rare as a primary condition. It is usually associated with a sagging of the colon, but it may exist alone as the only malposition present. Radiography is as important in this class of work as in any branch of medicine. By the X-ray not only is the position of the stomach shown, but what is more important its tone. From X-ray findings gastroptosis may be divided into two classes. The first in which the stomach retains its vertical position and the pylorus, although prolapsed, still occupies a low point. In the second class the stomach occupies a transverse position in which the greater curvature and fundus are greatly depressed, the pylorus remaining on a higher level. The functional disturbances are more pronounced in the latter class, because of the angulation that occurs at the gastroduodenal junction and because the chyme mass must be lifted uphill. For the operative relief of this condition he prefers an omentopexy or practically the same operation as described for coloptosis. He prefers this to the operation of Beyer, as he thinks the function of the gastrohepatic omentum as a suspensory ligament is doubtful, as it is employed in this operation.

In conclusion he summarizes his views on gastroenteroptosis as follows:

(1) Every case of visceral sagging should be studied individually, and should not be treated in a routine way, whether conservatively or by operation.

(2) If after removal of a normal appendix without relief do not class the patient as a hopeless neurotic. It is possible that some visceral displacement or adhesion has been overlooked, that is causing the pain.

(3) A small incision in the kind of work under consideration has signal disadvantages.

(4) In many seemingly hopeless cases of gastroenteroptosis with marked neurasthenic symptoms operation promises relief. If this

is the result of suggestion it is none the less valuable if the relief is permanent.

(5) Internal treatment, abdominal supports and postural treatment should be tried, operative interference should not be delayed lest the habitus nervosus becomes too deep-seated to be eradicated.

(6) No gastroptotic patient should be operated upon unless some functional disturbance can be demonstrated. To relieve this must be the aim of the operation.

(7) Given a visceroptosis in which we can elicit distinct functional incompetence or deviation, the existence of nervous phenomena does not militate against operation, but may be the chief reason for performing it.

G. P. G.

SAFETY IN THE OPERATIVE FIXATION OF INFECTED FRACTURES OF THE LONG BONES; Howard Lilienthal, (*Annals of Surgery*, July, 1912). Realizing that a secondary operation often follows plating an infected fracture after the method of Lane, Lilienthal has devised two methods of direct operative fixation, the apparatus used to remain in the tissues only until the plastic exudate would make it possible to maintain satisfactory position. The first method is accomplished by means of four gimlets, each being composed of a screw, a slender shaft and a square head. The latter is made to fit a key or brace. The gimlets are driven firmly into the fragments, two above and two below the fracture, the four forming a more or less straight line. The fracture is now reduced under direct inspection, and so retained by an assistant while two small steel rods are applied in such a way, along the line of gimlets and roughly parallel to the bone, that the rods and gimlets are in contact. If the gimlets happen to be in perfect alignment, the rods fit on either side of their shafts; otherwise, the rods are woven in and out among the gimlets. In either case they are kept near the gimlet heads away from the skin. In this position plaster bandages are wound about the rods and gimlets until the whole forms a rigid mass. The wound is not sutured, but packed from the bottom after thorough disinfection, and a dressing applied, with external splints. At the end of three weeks the gimlets will have become loosened and can be removed painlessly, and the wound, if found to be aseptic, closed with adhesive plaster.

Lilienthal's second method is mechanically more perfect, as it allows a plate to be screwed down upon the bone shaft. The plate is similar to Lane's except that at either end is a small projection, containing an eye. The under surface of this projection is grooved, so that when a wire is passed through the eye and the plate applied to the bone, the wire lying in the groove does not press upon the

periosteum. The plate is now screwed down upon the bone by means of the gimlets, whose shafts, as well as the wire from each end of the plate, project above the skin. At the end of two to four weeks, the gimlets are unscrewed of the plate removed by traction upon one wire or the other, as seems best. The advantage of being able to easily remove the plate impressed itself upon Lilienthal, when he learned of a case of re-fracture after successful plating, the break occurring not at the old site, but through one of the screw holes.—A. L. P.

CONSERVATIVE TREATMENT OF GIANT-CELL SARCOMA, WITH A STUDY OF BONE TRANSPLANTATION; Joseph C. Bloodgood, (*Annals of Surgery*, Aug., 1912). Bloodgood is firmly convinced that giant-cell sarcoma is not nearly so malignant as has been heretofore supposed. His own experience and his review of the literature led him to earnestly advise conservative operative measures. In addition to 26 personal cases, he has carefully studied as many more from the literature, and summarizes his results as follows:

1. Cases cured by curetting 11
2. Cases recurring after one curetting cured by a second curetting 1
3. Cases recurring after a curetting cured later by a resection. 3
4. Cases recurring after a curetting cured later by amputation 1
5. Cases which remained well after section 21
6. Cases which have recurred after resection but remained well after amputation 1
7. Cases subjected to primary amputation 14

He urges the use of the X-ray in all bone injuries, hoping thereby to detect the lesion so early that curettage will be sufficient.

He does not think that Coley is justified in including cases of giant-cell sarcoma among his cured cases as additional evidence of the efficacy of his serum. All of Bloodgood's 26 cases are well, some after ten years, and no treatment other than curettage, excision, or amputation was used.

The preponderance of giant-cell sarcoma of the lower end of the radius is noted, and Bloodgood regrets that his inexperience led him to amputate in four of his nine cases. Now he would advocate simple curettage, with transplantation of bone to fill the cavity. In such localities as the upper end of the fibula and in all cases where the bone capsule is perforated, he advocates resection. In all cases he disinfects the cavity with carbolic acid and alcohol.

He believes the term "sarcoma" should be dropped and "tumor" substituted, thus weaning the profession away from the faulty idea of the malignancy of giant-cell sarcoma.

He emphasizes his main points as follows:

1. Up to the present time we have no proof that the pure giant-cell sarcoma ever metastasizes. It is a question, therefore, whether it should be called a sarcoma.

2. Conservative treatment is justifiable. Curetting should in some localizations of the tumor, be the operation of choice.

3. It is justifiable to attempt curetting to preserve function, even when conditions suggest a great probability of recurrence.

4. Among 26 cases subjected to curetting there were five recurrences: one has remained well after a second curetting; three after resection, and one after amputation. I am confident that the number of successful cases of curetting will depend chiefly on the number of attempts.

5. Twenty-two cases were subjected to primary resection: one recurred and was cured by amputation.

6. As I found only five cases in the literature of giant-cell sarcoma subjected to primary amputation, and there are nine in my own list, one can feel pretty certain that many of these cases are not reported, except in statistical studies from large clinics.

7. After curetting or resection, the wound should be disinfected with pure carbolic acid followed by alcohol or chloride of zinc solution.

8. It is not necessary to perform the bone transplantation at the primary operation unless a single bone like the humerus or femur is divided in its continuity.

9. My experience teaches me that it is simpler, when possible, to get the bone for filling the defect by splitting the bone which has been resected.

10. In every case in which the X-ray shows a medullary shadow the urine should be examined for Bence-Jones bodies; the latter indicate the presence of a multitude myeloma, or metastatic carcinoma.

11. I would caution against the surgeon making a positive diagnosis of either a bone cyst or a giant-cell sarcoma. The more X-rays I see, the less confidence have I in my ability to make a differential diagnosis, except in the latter stages.

12. The positive diagnosis must be made at the exploratory incision. The bone cyst as a rule can be recognized by its blood-stained contents; the giant-cell sarcoma by its red, vascular tissue, which looks like granulation tissue. But the giant-cell tumor often has white areas of osteitis fibrosa often red giant-cell areas. The two are often mixed. One tissue, however, predominates. The less ex-

perienced surgeon should always aid himself with a frozen section. The giant-cell tumor occurring as a blood cyst may be encountered. The rare bone aneurism discussed in my previous report will be difficult to differentiate from the giant-cell tumor of the type described by Davis. Since my first report I have had one other observation in which the hemorrhagic tissue forming the wall of the blood cavity resembled closely a giant-cell-sarcoma, but the frozen section demonstrated the practical absence of giant-cells.—A. L. P.

THE LOUISVILLE MEETING.

"The Latch-String Hangs on the Outside."

The Jefferson County Medical Society extends a cordial invitation to every member of the Kentucky State Medical Association to attend the 1912 meeting to be held in Louisville October 29th, 30th, 31st, and assures them of a most hearty welcome.

The Society has secured the most beautiful and the most comfortable meeting place in the city of Louisville—right in the heart of the city—the First Christian Church (better known as Dr. Powell's Church), for the meetings, as well as the scientific and commercial exhibits.

The Committee on Arrangements, with the aid of its energetic sub-committees on finance, entertainment and hotel accommodations, has made the most elaborate preparations for the comfort and entertainment of its guests.

The members of the Jefferson County Medical Society have contributed very liberally to the fund for the entertainment of our guests, and their only desire is that the attendance may be a large and representative one.

The entire membership of the Jefferson County Medical Society is actively interested in the coming meeting, and every one of the two hundred and sixty members will constitute himself a Reception Committee.

COMMITTEES.

Arrangements.—Edward Speidel, Chairman; A. C. L. Perceful, C. H. Harris.

Finance.—E. L. Henderson, Chairman; Milton Board, D. Y. Keith, Guy P. Grigsby, E. F. Horine, J. B. Lukins, Jethra Hancock, J. A. O. Brennan, W. Bartlett Owen, Wm. A. Keller, C. G. Forsee, B. J. O'Connor, H. A. Davidson, C. T. Wolfe, Wm. Sanders.

Entertainment.—Louis Frank, Chairman; H. H. Grant, L. S. McMurtry, Henry Enos Tuley, Ap Morgan Vance, Harry J. Phillips, Jno. J. Moren, David C. Morton, Jno. G. Cecil, Dunning S. Wilson, Cuthbert Thompson, W. C. Dugan, J. Garland Sherrill, Wm. H. Wathen, W. Ed Grant, Irvin Abell, I. N. Bloom, Wm. Cheatham, S. G. Dabney, J. M. Ray, G. S. Haues, Bernard Asman, Chas. W. Hibbitt,

E. S. Allen, Virgil E. Simpson, Charles G. Lucas, J. B. Marvin, J. M. Mathews, Adolph O. Pfingst, Curran Pope, W. O. Roberts, B. F. Zimmerman.

Hotels and Information.—Henry Enos Tuley, A. C. L. Perceful.

Ladies' Entertainment.—Mrs. H. H. Grant, Chairman; Miss Marie Louise McMurtry, Mesdames. Henry Enos Tuley, Ap Morgan Vance, Harry J. Phillips, Jno. J. Moren, David C. Morton, Jno. G. Cecil, Dunning S. Wilson, Cuthbert Thompson, Louis Frank, W. C. Dugan, W. H. Wathen, W. Ed Grant, Irvin Abell, I. N. Bloom, S. G. Dabney, J. M. Ray, Bernard Asman, E. S. Allen, Charles G. Lucas, J. B. Marvin, J. M. Mathews, Adolph O. Pfingst, W. O. Roberts, B. F. Zimmerman, Edward Speidel.

Reception.—Every member of the Jefferson County Medical Society.

PROBLEMS AND DIFFICULTIES OF THE HEALTH OFFICER.*

By S. B. ROBINSON, Warsaw.

The health officer who is faithful in the discharge of his duty will have many problems to solve and many difficulties to overcome.

The remuneration is so small that the work he does is almost a labor of love, and there is so much to be done that, in a great many cases, he gives up doing anything but the most necessary requirements of quarantining the contagious diseases and making efforts to abate nuisances when they are complained of.

The health officer who does his duty of course will receive the approval of some and he will also meet with opposition from sources from which he would expect only cooperation and encouragement.

But the knowledge and satisfaction of having met the demands of duty will be some recompense for the time spent and all inconveniences experienced.

The great problem of how best to educate the people and get before them the great and vital questions that demand our attention now confronts us.

How are we to educate the people of this Commonwealth upon the great subject of preventable diseases to which we are so susceptible, and how are we to induce them to make a great and united effort to overcome these diseases?

This great responsibility rests upon the shoulders of the medical men and the educators of the people.

The prejudice against vaccination is giving way before the better education of the rising generation, though a number of the older in-

*Read before the school for Health Officers, Louisville July 8, 9, 10, 1912.

habitants and more superstitious are opposed to it, claiming they would much prefer to have smallpox as they have it now than be vaccinated.

We must educate the people upon the subject of tuberculosis, of typhoid fever, of diphtheria and other preventable diseases, all of which may be driven from our midst if proper hygienic and sanitary conditions can be brought about.

Thanks to the persistent efforts of the Secretary of the State Board of Health, there is now a well equipped laboratory and a competent bacteriologist in charge to whom we can submit any specimen and get a report upon it without any cost whatever. This will prove a great help to us in many ways, and a great aid in making a diagnosis of many difficult and obscure cases.

The problem of educating the teachers and parents upon the subjects of proper heating, lighting and ventilating of school houses, together with good drinking water should receive the attention of the thoughtful physician and health officer.

The problem of proper feeding, clothing, bathing and exercise for children should receive our attention.

If the county school superintendent and county health officer will work together and have these subjects discussed at school institutes and at school meetings in each precinct of the county bringing out the great benefit to be derived from adopting improved methods along all these lines, then we will begin to solve some of these problems.

If the health officer will discuss the subject of farm sanitation at the farmers' institutes he can do a great work in improving the health of the people.

The cities of this country have solved the problem of having a good and wholesome milk supply by placing "commissions" in charge of that important article of food and having a bacteriologist to see that the milk supply comes up to a certain standard, this has resulted in improved conditions of health in these cities and especially among the children.

Outside the cities we must accept the milk as it comes to us from the milk-man, trusting to him for its purity.

If the health officer and physicians of each county would take up this very important subject with the farmers, explaining to them the importance of furnishing milk only from absolutely healthy cows, and especially that they should be free from tuberculosis, that cows should have plenty of pure, fresh water to drink, good pasture, and other food, it would most certainly result in improved conditions of health.

It is claimed that every cow furnishing milk

for infants should be tuberculin tested, this is almost impossible in every community, but the condition of the cows should be closely guarded. None but the absolutely healthy should be allowed to milk.

No one nursing, or about the sick should be allowed to milk.

Milking should be done in a dust free room for dust contains a great number of bacteria.

The body of the cow must be clean and wiped with a damp rag before milking.

The bag and teats must be washed clean and dried before milking.

The bacteria found in manure and the dirt on the cow's body attack the fat and proteid of the milk producing rancidity of fat and many changes in proteids, sometimes poisonous products are produced by the action of bacteria on proteids.

The milker should have clean hands and the milk pails should be perfectly clean.

Milk should be immediately cooled and placed upon ice and kept at a temperature of 45 degrees or below to stop the development of bacteria.

With cows free of tuberculosis, and otherwise healthy, and the suggestions carried out as above indicated we ought to have milk that is perfectly safe for the baby.

Pasteurization destroys most of the bacteria in milk but it should be immediately cooled to prevent development of bacteria that would attack the proteid of the milk, and it is thought that the products of these bacteria are poisonous.

The number of bacteria in milk is an index to its freshness and precautions taken in milking and handling the product. A count of 100,000 per c.c. is not fit for infant feeding, but a count of 10,000 or less is desirable.

Bacteria in milk may be divided into two classes: the pathogenic and non-pathogenic. Pasteurization or heating the milk to 140 or 150 degrees F. for 30 minutes kills all pathogenic germs and from 98 to 99 per cent of other bacteria.

After Pasteurization there is less inhibition to bacterial growth than in raw milk.

If you have no thermometer to get the temperature, heating the milk until a scum forms and holding it at that temperature for the time will be all sufficient.

Sterilization is boiling the milk for about 20 minutes, this destroys all bacteria and their spores, but we also destroy the power of the milk to inhibit their growth, and any contamination will be followed by marked increase of the number of bacteria in a few hours.

The chemical changes in sterilization of milk are very marked, but when it is only Pasteurized the changes are unimportant.

It is thought that fresh milk has some 

hibitive action on bacteria for after boiling bacteria growth is much more rapid than before.

It is our duty as physicians to bring before the people again and again the fact that consumption is a communicable disease through the sputa.

That every particle of this should be collected in spit cups or on paper and promptly burned.

They should know that open air, sunlight and abundance of food constitute mainly the treatment.

The typhoid fever problem should be handled by the medical men at public meetings and the infection by water, ice and flies fully explained.

The problem of dealing with the fly and mosquito should be brought prominently before the people.

It is claimed by a health officer of Washington, D. C., that from one female fly, in a single season, about eight billion flies may descend.

The housefly is now regarded as one of the most deadly enemies man has to contend with, he carries typhoid fever, tuberculosis, intestinal diseases, spinal meningitis and infantile paralysis, leaving the germs wherever he lights.

The mosquito problem should have our attention and the people taught that these pests carry malaria, yellow fever and filariasis.

It is only the female imago that sucks human blood and she is only active at night.

It is only in warm weather that mosquitoes appear to have any part in the transmission of disease.

Malaria rarely develops below 59 degrees F. and is completely checked at 32 degrees, at which temperature mosquitoes are very sluggish and do not bite.

In this country we have nine genera of mosquitoes represented by about twenty-four species, the larger number belong to the genus *Culex* and are quite harmless.

We have three of the eight or more species of malaria bearing anopheles, and the *Stegomyia* calopus, the carrier of yellow fever.

The *Stegomyia* is found in various southern states and does not bite at a temperature of 62 degrees F.

This will account for the decline in yellow fever as cool weather comes on.

Stagnant pools should be drained and kerosined to abate the breeding places of the mosquito; weeds which furnish hiding places for these pests should be cut.

School hygiene is one of our most important problems.

In the country districts medical inspection can not be carried out as faithfully as in the

city, but the teachers should be instructed in hygiene, and should report any appearance of ill health immediately.

They should report any contagious disease that may come into their school district.

Defects of eye, ear, nose, throat, etc., should be looked after and corrected.

The school house itself should be a model of ventilation, lighting and sanitation.

Every school should have a play-ground for the boys and also one for the girls; or if only one can be provided they should use it alternately.

The problem of educating the people upon the great subject of hygiene which is light, air, water, food, rest, exercise, etc., should have our attention.

The subject of preventive medicine should be brought before the people, especially of infectious diseases.

The germ origin of many diseases should be preached to the people, also the part played by water, impure food, insects, etc., as carriers of disease to man.

In order my friends, that the people may have confidence in all of these teachings, and in order that we may have the best influence for good in the community in which we live, we must practice what we preach and live up to them ourselves.

THE FORUM

To the Editor:

Prof. H. Strauss, of the University of Berlin, will give a lecture, in German, at the New York Post-Graduate Medical School and Hospital, Twentieth Street and Second Avenue, on "Gastric Secretion from the Therapeutic Point of View," on Monday, October 14th at 4 p. m., and at the same hour on Tuesday, October 15th, a lecture on "The Methods and Purpose of Dechlorination in Nephritis."

Prof. C. Von Noorden, of the University of Vienna, will give a series of lectures, in English, at the New York Post-Graduate Medical School and Hospital, on "New Aspects of the Pathology and Treatment of Diabetes," and on "Diagnosis and Treatment of Nephritis," beginning on Tuesday, October 29th, at 4 p. m., and continuing for four consecutive days, at the same hour.

Cards of admission upon application.

KENTUCKY MEDICAL JOURNAL

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EDITORIAL

THE R. M. ROSE COMPANY.

A recent letter from the R. M. Rose Company to the Editor of the JOURNAL, proposing to give him a gallon of whisky for every ten they are shipping to inebriates in this neighborhood, in his name, is answered in this public way through the columns of the JOURNAL so that the profession of the State may know about this disgraceful offer. The State Medical Association will be glad to have information as to any doctor who has accepted the proposition set forth in a circular letter that was evidently sent out to physicians all over the State, as some fifty of them have already been received in the office. It will be a matter of regret to know that any man has so far forgotten the obligation to his profession and his State as to assist in this plain violation of the law, but if anyone has done it, we will take a great deal of pleasure in preferring charges against him so that he will not be in a position to continue to do so. The JOURNAL has nothing to do with the legitimate sale of whisky, but with a dishonorable and disgraceful proposition like this, we have an immediate and direct interest.

SCIENTIFIC EDITORIALS.

NASAL REFLEX NEUROSES.

The hay fever period has again come and gone and nothing new in a curative or palliative way has been offered the unfortunate stay-at-homes, afflicted with this disease. From time to time new therapeutic measures have been suggested for the relief of hay fever, but each year the multitude of sufferers from this nasal neurosis find that re-

lief can be obtained only by seeking of the northern climate. In this, as well as in other nasal reflex neuroses a certain percentage of cases can be cured or at least relieved by intra-nasal treatment between the periods of activity, a fact now generally recognized but to which we wish to call attention.

The nasal neuroses have been divided by Jurasz into three classes:

(1) Those in which the sensory origin is in the nose and the effect produced is outside of this organ—as in asthma, chorea, etc.

(2) Those in which the sensory impulses arises in the nose and the end result is in the nose—as in hay fever, and,

(3) Those in which the afferent impulse arises outside of the nose and the end result is in the nose—as in the congestion and hypersensitiveness of the nasal mucous membrane following sexual excitement.

It is now a conceded fact that all of these reflex conditions are dependent primarily upon a peculiar neurotic predisposition of the individual, but that the local (nasal) and the exciting causes are important factors in the production of the reflex act.

There was a time following the publications of Voltolini, Hock, and others, pointing out the etiological relations between intra-nasal troubles and reflex neuroses, that rhinologists in their enthusiasm over the curative possibilities of nasal treatment in these cases almost overlooked the constitutional predisposition. Later through the experimental study of Flies, Kuttner and others, it was demonstrated that hay-fever, asthma and kindred diseases, although dependent principally upon the general nervous condition of the patient, were in a great measure due to pathological conditions of the nasal mucous membrane. For a time it was believed that there were certain circumscribed areas in the nose which alone gave origin to the affected im-

pulse of the reflex act, but it is now known that the sensory impulse can arise from any part of the mucous membrane, whether supplied by the olfactory or the trifacial nerve.

Killian has demonstrated experimentally that the spine of the septum on each side and the posterior portion of the inferior turbinate bone are the most susceptible portions of the nose.

Of the nasal conditions which make the mucous membrane susceptible hypertrophy of the turbinate bones is perhaps the most common. The enlargement of the bone itself or hypertrophy of its mucous membrane brings it in contact with the septum and an increased irritability of the afferent nerves results. Irregularities of the septum of all kinds such as spurs, deflections, fractures, etc., are often brought in contact with the turbinates with a similar result.

While we have always recognized in nasal polypi one of the frequent causes of reflex troubles, it has only been in the last few years that disease of the accessory nasal sinuses, especially the ethmoid cells, have been recognized as etiological factors in these conditions. Adhesions of adjacent structures in the nose such as the turbinate bones with the septum, resulting from injuries, operations or ulcers are also frequently the cause of reflex trouble. With the irritability of the sensory nerves increased by the local pathological conditions, they become susceptible to such irritants as pollen of plants, powders of various kinds, odorous gases, etc. In the beginning of these troubles when the mucous membrane still approaches the normal, it takes quite a strong irritant to start the reflex paroxysm, but after repeated attacks the mucous membrane becomes more susceptible and responds to a milder stimulus. This is frequently noticed in asthma, and hay fever, where, after several years recurrence of the trouble, the nervous system has not carried out its normal functions for so long that it seems no longer capable of doing so, and in some cases, even though the nasal cause of the disease be removed, the trouble persists.

The most frequent reflex neuroses dependent upon a nasal origin are, asthma, epilepsy, chorea, and migraine. Cases of reflex angina pectoris and Basedow's disease are also on record.

A very interesting case illustrating the etiological relation between the nose and asthma, was recently observed by the writer in a young lady of 30 years, apparently in splendid health, who has been having typical attacks of asthma at irregular intervals for over a year. This patient had rather large tonsils, with many of the crypts filled with cheesy concretions, and had been advised by a competent rhinologist to have them removed, be-

lieving that they were responsible for the attacks of asthma. Casual examination of this patient's nasal passages led to the conclusion that they were normal, but a more careful examination after shrinking the mucous membrane with adrenalin-cocaine solution revealed a small polyp far back on the edge of the middle turbinate, and in contact with the septum. Removal of this polyp has given the patient perfect relief of her asthma. It is now six months since the operation.

Cases of chorea whose origin could be traced to pathological conditions in the nasal passages, and in which cure was brought about by nasal treatment are not uncommon. The most pronounced case of this kind which has come under the observation of the writer, occurred in a young man of 19 years, who had suffered with choreic twitching of the muscles of his face, neck and shoulders for two years. The trouble began several months after an injury to his nose during a foot ball game. This boy presented an angular deformity of his cartilagenous septum, almost completely blocking the right nasal passage. Eight months ago a sub-mucous resection of the septum was done giving him free breathing space. There was a gradual improvement until to-day he has about stopped all of his nervous movements. Prior to this operation the writer had removed a small adenoid and corrected his errors of refraction with lenses without benefit.

Reflex epilepsy of nasal origin was at one time believed to occur with greater frequency than it now is, many of these cases now being recognized as hysterical in origin. While the writer has had no personal experience with epilepsy originating in nasal conditions many authentic cases of the kind are on record, the epileptiform paroxysms occurring coincidentally with intra-nasal changes and cure following correction of the nasal conditions. It seems that the differentiation between epilepsy and convulsive hysteria is very difficult. Even the aura is not a positive sign as Charcot and others have shown that it is present at times also in hysterical cases. In epilepsy and in convulsive hysteria the nasal mucous membrane has similar sensitive areas whose stimulation may bring about the convulsive attack. Some authors have discredited the many wonderful cures of epilepsy by means of intra-nasal surgery, believing that many of them were of a hysterical nature and the cure the result of suggestion rather than the real result of the operation.

Nasal disorders have frequently been known to influence the circulatory system. Kassel reported a case in which contact with the nasal septum at the spine caused palpitation of the heart, and the palpitation entirely ceased after removal of the spine. Kratschner

demonstrated that slowing of the pulse frequently resulted when the nasal mucous membrane was stimulated, and Knobloch and Roder found in animals that stimulation of the nasal mucous membrane opposite the posterior extremity of the inferior turbinate bone brought about various forms of arrhythmia. The causes of Basedow's disease reported cured by intra-nasal surgery by Moritz Schmitt, and Hopman were evidently not true cases of this disease, but reflex changes in the vaso motor system. The theory is that the trigeminus stimulated in the nose sends its impulses to the sympathetic ganglia from where the vaso-motor impulses are sent out and the symptoms of Basedow's disease produced.

In late years the rather remarkable fact has been demonstrated that the nasal mucous membrane and the genital organs stand in direct relationship. Flies, Knobloch, and others have demonstrated erectile tissue at the spine of the nasal septum, while Flies reported a case of dysmenorrhoea in which the pain was stopped by application of cocaine to the nasal spine.

Whether hay fever, should, strictly speaking, be classed with the nasal reflex neuroses has not been decided. The morbid condition in the nose is one of hyperemia and edema depending upon vaso-motor disturbances, which most likely are the result of reflex stimulation arising in the nose. Phillips in his recent text book says, "The disease is probably a combination of a moderately severe neuroses, with local morbid changes, which give rise to the local irritation of the nerve endings of the sensitive branches of the sphenopalatine ganglia, upon which, at favorable seasons of the year, the pollen of certain plants and the emanations from certain animals, lodge and give rise to phenomena characteristic of hyperesthetic rhinitis."

Although many times in severe cases of hay fever we find no abnormalities in the nose except the puffy mucous membrane, we know that many of them are brought about by nasal conditions such as we have mentioned.

The treatment of nasal reflex neuroses even though they are due largely to the neurotic predisposition of the patient offers the most chances for relief through intra-nasal surgery. Surgery of the nose has made such progress in the last years that the possibility for cure has increased. It has not been many years since, that nasal polypi were treated as such by removing them as close to their origin as possible. While this in many instances has relieved the reflex troubles we know now that polypoid growths probably with few exceptions spring from the nasal accessory sinuses, and that reflex troubles are at times not cured until the primary (sinus) trouble is cured.

It has also only been in recent years that we are able by means of the sub-mucous resection of the nasal septum to obtain free nasal passage, and thereby relieve points of contact which was not possible with the old crude method of rebreaking and splinting the septum (Ash operation).

Cases without deformities or points of contact or adhesions are sometimes relieved by the application to the sensitive points of Kilham of trichloroacetic or chromic acid. As points of contact in the nose are subject to change in the amount of swelling of the mucous membrane, these cases should be given as free a breathing space as possible. Polypi should be removed, deflections corrected, adhesions separated and large turbinates wholly or partially resected. While most of the cases which are cured by intra-nasal surgery are real cures due to the correction in the nose, the writer is convinced that in a certain percentage of cases the cure is brought about by the psychic effect of the operation.

It goes without saying that general treatment should be given these patients and the irritant causes avoided as much as possible.

ADOLPH O. PFINGST.

THE NINTH INTERNATIONAL OTOLOGICAL CONGRESS.

The Ninth International Otological Congress met at Boston, August 12th-17th, about three hundred and fifty members being registered.

It was the first meeting that had been held in America since the organization of the Congress at New York City, in 1876, and was in many particulars a notable gathering.

The sessions of the Congress were held at the Harvard Medical School, which was a particularly happy choice.

These buildings, probably the most magnificent in the world used for the teaching of medicine, standing out with all the stateliness, grandeur and beauty of a Greek temple, are the very apotheosis of all that is greatest and best in medicine. It should be a matter of pride to all Americans that, notwithstanding our deficiencies in medical education in the past, we were able to offer an International Congress, for its sessions, a place dedicated to the teaching of medicine not to be surpassed in the whole world.

EXHIBITS.

There were no commercial exhibits. Of the scientific exhibits, those of most interest were the extensive microscopical preparations of the internal ear, both in health and disease, many of these being particularly clear and easy to understand. (This can be readily ap-

preciated by one who has made his first essay in this work).

The other exhibit that deserves special mention was a series of X-ray plates, showing the diseased and healthy mastoid process. This method is now firmly established as a definite diagnostic agent, especially in doubtful cases.

SESSIONS.

The conduct of the sessions of the Congress was almost military in its discipline. Every essayist was held strictly to his allotted time. One had to indicate on cards sent to the Chairman his desire to take part in a discussion. No one who had not sent in his card was recognized. Discussion was mostly limited to three minutes, but the remarkable part of this was that the speaker often left part of his length of time unused.

At a meeting where all the papers were good, it would be impossible to pick out a particular few for mention.

To one who followed the sessions closely, the following points stood out in bold relief:

The value of autogenous vaccines in certain types of ear infections.

The value of blood cultures for the purpose of diagnosing sinus thrombosis or meningitis.

That consistent efforts are now being made to solve the meningitis problem; to increase our knowledge of its diagnosis, its classification and treatment.

The greatest interest and enthusiasm was shown to all problems dealing with the internal ear, especially the labyrinth, and enough has already been brought out to show that the otologist will soon be the complete master in that hitherto unknown region.

Finally, there came the consideration of the deaf child; the prevention of deafness; home treatment and schools for the deaf.

Probably the most dramatic session of the Congress was precipitated by a paper by Mr. Heath, of London, on "The Prevention of Deafness and Mortality Due to Aural Suppuration." The discussion of the paper waxed warm and even descended to personalities. Our English confreres, almost to a unit, condemned Mr. Heath and his work, and many of the Continental members took the same stand. Be it said for Mr. Heath that, the harder they hit, the more he seemed to enjoy it, and when it came time to close the discussion he took up his opponents, one by one, and disposed of them in full. He showed himself a master of debate as well as a great ear surgeon.

America, with but two exceptions, offered no open protest to Mr. Heath's work, and the surgeons of Boston supplied him with abundant clinical material to demonstrate what he could do. About that, more later.

This discussion, as well as many private

opinions the writer heard, discloses a state of unrest about the mastoid operation that might be disconcerting if it did not give promise of better things.

Such a state of affairs can mean but two things. Either there are several methods, equally good, of accomplishing the desired results; or, that dissatisfaction with the older methods has caused some to seek better results by newer procedures.

Let us hope that the very free discussion of this question will bring us to an unanimity of opinion that will indicate that we have reached bed-rock.

CLINICS.

Mr. Heath was in Boston in advance of the Congress and operated both before and during its sessions at the Massachusetts Eye and Ear Infirmary. He had in all about twelve cases, mostly acute, and his work excited general interest.

His operation must be seen to be understood. His primary incision hugs the posterior attachment of the auricle, which he dissects forward, hugging the cartilage till the cartilaginous canal is reached. This is separated and the auricle then drawn forward. It will be seen that the part drawn forward is only the cartilage and is thus ready for his plastic. Incisions backwards, through the soft parts above and below, with retraction, give the required bony exposure. He enters the antrum from in front, as in the Stacke operation, and cleans out the cells, but not entering the tip unless special indications exist. He cuts down the bony wall to the annulus as he proceeds. He then reams out the aditus with a special instrument and blows air through it out of the perforation in the tympanum. He is then ready for his plastic. He enters the knife at the superior portion of the cartilaginous canal and cuts downward and forward into the concha. He then cuts free the upper end of the flap by an incision inward in the superior wall. The flap is thus turned downward and backward, and sutured to the soft parts behind. He also enlarges the external canal by a cut outward in the concha, at the level of the top of the canal. When the flap is in position, a good view of the antrum and drum is obtained. He places two pledgets of cotton in the ear, one at the opening in the drum, one over the aditus, and sometimes one deep in the antrum. The posterior wound is closed and the after-treatment carried out through a large, fenestrated, rubber tube placed in the external meatus. The usual external dressing is applied.

The after-treatment is very simple, dressing being done through the external canal; the tube removed and cleaned and the exere-

tion wiped out with cotton pledgets. He has an antiseptic solution made, I believe, by saturating water with iodoform and boric acid. This solution, on cotton pledgets, is put into the wound at the aditus and over the tympanum, after removal of those placed in at the operation.

He insists, moreover, at each dressing, that air be forced through the Eustachian tube, out through the opening in the drum, and through the aditus. He has a special canula to keep the last pathway free from debris, and he believes that the stopping up of this passageway is the primary cause of mastoiditis.

I had also the good fortune to see Mr. Balance apply a large primary graft following a radical operation at the same institution. After a carefully executed radical, he cuts a large thin graft from the inner surface of the thigh. This he smooths out on a large spatula and, after carefully wiping out the wound, transfers it into the cavity. In order to get close apposition in all directions; he inserts a glass pipette under the graft, sucking out air and secretions while he presses the graft in place from above. He uses small pledgets of cotton covered with ——— to hold the graft in place, and closes the posterior wound. He sews the flap of his plastic backward, making an ample external meatus, and carries on the after-treatment through this opening.

Professor Neumann did a labyrinth operation at the Boston City Hospital, on a patient who had a previous radical operation performed. He enters the labyrinth from behind, working just anterior to the sinus, and enters the semi-circular canals from this position. He then opens the cochlea by chiseling away the promontory.

Mr. Richard Lake, of London, demonstrated an ingenious larynith operation on the cadaver. The incision and exposure he gets is different from any other operation. He places his knife in the meatus, edge up, and cuts from the drum outward. The incision then swings forward to the beginning of the helix and follows the attachment of the auricle till about half-way down; then it turns out over the mastoid. He then literally dissects the auricle and cartilaginous canal from all its attachments except below, so that it can be retracted down on the neck. He then enters the antrum from in front with a hand gouge, cutting down the posterior bony wall through the annulus as he proceeds. He enters the labyrinth through the external semi-circular canal, gradually uncovering the others, and after communication is established between these, he breaks open the cochlea by chiseling away the promontory. He then brings the ear back into place without drainage, flaps or packing. He makes no ef-

fort to keep the external canal patent, since the ear is dead following the operation. He uses a number of special instruments for his operation.

As a fitting climax to the sessions, the last afternoon was devoted to the methods of teaching the deaf, and the importance and necessity of having properly trained teachers in every community who can carry on this work. The importance of early training by the mother was emphasized, and that the doctor should instruct the mother as to her duties during this period.

All agree that lip-reading should be taught exclusively, if possible; that in all cases it is the method of choice, and that the manual method should occupy a subordinate place, or be used in cases where eye-sight is also wanting.

To demonstrate the possibilities of teaching the deaf, Professor Wright, of New York, exhibited several of his pupils who spoke to the Congress, and could understand perfectly everything that was said, though they had been entirely deaf since infancy, thus illustrating the possibilities of lip-reading.

He also had with him Miss Helen Kellar, who addressed the Congress and plead with the profession not to lose themselves in the glamour of surgical achievement, but to give a portion of their attention to the education of, and the betterment of the condition of the deaf child.

The profession of our own State should give heed to the voice of this wonderful girl, and see to it that we have some one to teach these unfortunates.

With this demonstration, the Congress closed, to meet again in Berlin, in 1915.

GAYLORD C. HALL.

NEUROLOGICAL CLINICS.

The writer has just returned from a two weeks' attendance at the International Clinics of Neurology and Psychiatry, held at Fordham University in the city of New York. Too much praise cannot be given to this enterprising university, the faculty of which has undertaken to initiate a special extension course, so as to bring together the foremost men of Europe and America. This clinico-lecture course surpassed anything that it has ever been the pleasure of the writer to attend. Each line of neurology was well represented and the work done masterly in every particular. To attempt to in any wise detail the remarkable work of the Englishmen and Germans would be foreign to this editorial, but that neurology and psychiatry will be benefited, and many men in America stimulated to greater endeavor and to more research is unquestioned. The writer's personal opinion

is that Drs. Henry Head and Gordon Holmes undoubtedly carried off the palm, so far as the work in neurology was concerned. Both of these gentlemen are genial, sociable and clinical teachers of unusual ability. It was their plan to first outline the anatomy of the central nervous system, sensory and motor, indicate the symptoms that would follow certain lesions, and the pathology that likely would cause them, and the symptoms having localizable value. Having mapped out the anatomico-pathological ground work, they then introduced patients upon whom they were able to demonstrate the various lesions that had been shown in the theoretical and didactic portion of their lectures, a living verification of their investigations, and this was the same method followed by Russell in his course upon Tabes, a line of work to which he has given much time and attention.

Psychiatry was well represented by that past grand master investigator, Dr. C. J. Jung, of the University of Zurich, who lectured upon the psychology that is now generally termed Freudian, and which has largely been substantiated and supported by Jung in his scientific investigations by means of the association test and psychoanalysis. Representing the other side of the question was Dr. Alwyn Knauer of Munich, one of the principal workers in Kraepelin's Clinic. His lectures upon paranoia and paranoid conditions presented many new and interesting facts from the position that Kraepelin assumes. The normal and pathological microscopical anatomy of central nervous system was ably and well covered and extensively illustrated by colored lantern slides by Dr. Nicholas Achucarro, of Madrid.

It is with pride, that we Americans can feel that we were well represented. There were no better demonstrations, no cleverer teachers, and no more sincere workers than Messrs. Jelliffe, White, Goddard and May, to say nothing of the faculty of Fordham University, headed by that genial and pleasant son of old Ireland, Dr. Walsh. American neurologists and psychiatrists owe to Fordham University a debt of gratitude, and it is to be hoped that the faculty and trustees will repeat these extension courses and continue to bring to our doors the best talent of the old world, not alone in neurology and psychiatry, but other branches of the healing art in order that we Americans may profit by their teachings and presence. They have undoubtedly stimulated us to better endeavor to harder work. A pleasant feature of the course, was the reception given by Dr. and Mrs. Jelliffe.

CURRAN POPE.

PRESIDENT'S ADDRESS*

DAVID O. HANCOCK, Henderson.

No nobler virtue warms the knightly heart than that of gratitude. No rose blooms on the wall of life without the application of a human hand near the root of it. Work,—work only can bring to us the semblance of dreams come true. There are exquisite moments in life, let people say what they will of the disappointments and vanity of the world, when hope is realized, desire fulfilled; but it is just for a moment, no more, just a fore-taste of the joys that shall be hereafter, when every moment of the long years of eternity will be still more full and perfect,—when we shall wake up and be satisfied.

Those exquisite moments are mine to-day. It is your work that brings to me the "semblance of dreams come true." By your leave I am the recipient of the most distinguished honor which you can bestow—President of Kentucky State Medical Association. I would be untrue to every instinct of my nature did I not attempt an expression of admiration for the hands that digged about the roots of the vine that has blossomed so gloriously into my life. The attempt brings to me Helburn's stanza to mother:

I have praised many loved ones in my song,
And yet I stand
Before her shrine, to whom all things belong,
With empty hands.
Perhaps the ripening future holds a time
For things unsaid;
Not now; men do not celebrate in rhyme
Their daily bread.

He who has made acquisition of a judicious and sympathizing friend, may be said to have doubled his mental resources. This being true I turn again to the duties of the office with assurance that my resources are many times increased.

Nature might have said of Brutus.—This was a man! So of 1912, this is a year. One of extraordinary development. It is good to live and have part in such a year. Notwithstanding deplorable accidents man is flying farther and higher and faster than ever before. This is true in every department of life. We read of embezzlements, scandals, divorces, etc. But we remember that 10,000 bank cashiers have not defaulted; that 100,000 preachers are faithful and virtuous; that 20,000,000 married couples have not sought divorces; that 10,000,000 of laborers have kept sober all the year; that 90,000,000 of our citizens have not suicided; and that millions and millions of people have made railroad trips without

*Delivered before the Kentucky State Medical Association, held at Louisville, October 28-31, 1912.

accident. And that the benefactions of the year are 150,000,000; and that our wealth is estimated on Wall Street at billions and billions.

Our people have learned and are learning that whatever their ideals, ambitions, and impulses, disease is the iconoclast which shatters and destroys. Its maw is filled with the bodies of millions who should to-day be enjoying the pleasures of life and contributing to the sum of human happiness. And having learned they are calling: Come and help us. Medical research unhampered, and encouraged by State, will soon have laid the foundation for a condition of life which can not be even imagined to-day. The young adult of the present will then have just entered his childhood; and the old man his prime. The economical and social conditions of a relatively disease-free existence would read like a fairy-tale. Medical science is doing its duty toward hastening this millenium. There will be no relaxation of energy in this humanitarian undertaking to which the medical profession is committed. Our science is continually placing new responsibility upon society and society must undertake an adaptation under the pressure of its postulate. Every discovery effects society in proportion to its utility. Society as a result must shift its attitude and change its conduct. These are beneficent adaptations and proceed to a higher plane. Disease is to be viewed as a sociological problem or accident, to be solved or repaired for the high and important reason, namely, to restore the patient to health, that society might suffer as little disturbance as possible. Ignorance in the body-politic, and violations of the civil and religious code should be viewed in the same light by, the educator, the lawyer, and the minister. Whatever interferes with the uplift of humanity is the arch-enemy of the race. All professions should unite in a common attack upon a common enemy. No single factor makes greater contribution to human happiness than health. The whole tendency of medicine is to conserve it, for the public good. The lives of Jenner, Koch, Reed, Carroll, Flexner, and others bear evidence.

Supervision of every condition which bears on public health and the enlightenment of the people on matters of the cause and prevention of disease, is a fundamental function of government; a bonnden duty which it should perform. (Gladstone). Government has wisely provided, Departments of Justice, Agriculture, Education, etc. Advanced civilization holds it as important to conserve the health of men, women and children, as it is to prevent violations of the civil law or to punish culprits.

The education of children is no more a duty of State than to protect them from diseases

which incapacitate them for the highest citizenship. To cure tick in cattle, cholera in hogs, and glanders in horses, are not more proper functions of government than the prevention of tuberculosis in the parents of our sons and daughters. Only the rankest strabismic statesmanship would deny the right of the State to provide for a system of State medicine to be administered in the interest of the health of all the people, without prejudice against any sect or combination of lawful interests. Usefulness depends on the frankness and success with which we attack and solve problems affecting the life, health and happiness of the people. The supreme duty of the Nation is the conservation of human resources through on intelligent measure of social and industrial justice.

We shall not destroy our means of earning a living by engaging whole-heartedly in this humanitarian work. On the contrary we shall add materially thereto. The practice of medicine is in a transitional stage. Certain sources of our revenue are being cut off by modern thought. No one hails this with more delight than the honest physician. We are glad to discard all forms of mental therapy, which are devoid of a rational basis, and concentrate our energies on more worthy fields. The general law of society is, Those who serve are supported. Every one should know how to protect and prolong his life, and how to safeguard his happiness. A better public intelligence will mean more medical work. Our best sources of income is from those diseases which least disturb the community, the family and the individual. A completely disabling disease of several months makes the average patient a source of loss to the physician. Patients past 30 years are the most profitable. Our revenues are increased by a decrease of infant mortality.

One out of every twelve babies die of birth accident, and there should be no birth accidents. One out of every four babies die of intestinal diseases. These deaths are unnecessary. Proper supervision in life prevents heart and kidney diseases. There is a stage in every case of consumption in which a cure may be had in three months. Not one-tenth of tonsils are removed, which should be removed. Adenoids are giving untold trouble. Thousands of people are working at low efficiency by reason of poor sight. There are not enough surgeons to do all the work demanded by a consideration of the greatest efficiency, comfort and happiness. The field is indeed white unto harvest.

Another source of useful work is that created by the new order of things. Health departments are community agencies. The people look to them for health conservation. They should find physicians in charge, train-

ed and equal to all requirements. The same is true of tuberculosis societies, and every other society which works for the protection of the lives and health of the community. The future of the profession depends on keeping matters so that when the public thinks of these things they automatically think of physicians, and not of sociologist and sanitary engineers. In this department of our legitimate work there is lucrative employment for all the capable doctors that can be produced in the next quarter of a century. This all means re-adjustment of medical work. Those who can not give high grade work will be eliminated. Those who serve are supported. The remedy is,—take active part in medical society work; on medical boards; read good journals; and take other advantages which qualify them for real service. If they will not do this, then they must look elsewhere for employment.

If we would have anything of benefit we must earn it; and earning it become, shrewd, inventive, ingenious, active enterprising. Having done this it is not sufficient that we experience an exhilaration which discharges itself in good humor on others. The laborer is worthy of his hire, applies to doctors. We should no longer give 25% to 50% of our earnings to charity. Tithing was the tenth. More is a hardship on us; and pauperizes the recipient. Eighty per cent of physicians collect less than 75% on their accounts. More than 500 doctors in Kentucky are serving on boards of health without pay. Three thousand six hundred doctors in our State are making vital statistic reports at less than 1-3 that paid court clerks for less work. More than 600 registrars are reporting births and deaths at 25 cents. County health officers get \$100 to \$300, where county judges and attorneys are paid \$1000 to \$3000. Why this *flagrant discrimination against doctors and the health of the people?* It is high time that we throw off these burdens and teach the people to pay for what they get. Laboratories, research, and prevention will soon constitute a large part of our work. Compensation for these services is an essential to their existence. We must educate the people along these lines for their own good as well as ours. To this end there must be an ever-increasing closer federation of our profession within itself, and with other professions and the public.

Medical organization suggests one name to every doctor in Kentucky. His magic wand has been felt in every state. An investigation of his more than a quarter of a century of public service has awakened an appreciation of this man. I here interpolate the gratitude of the medical profession of Kentucky to him. The organization of our State Associa-

tion is one of the best. There is nothing, however, but must be improved or changed as time and conditions change. The backward look is instructive. All that we have we gathered up on the paths that lie behind us. The spirits attitude of reverence for the treasures of the past is proof that the hall-mark of heaven is stamped on human nature. Gratitude is heavenly; justice is divine. The soul uncovering its head before the richness it has appropriated and assimilated, is a soul on the eternal ascent. Such a picture should have a place where hangs the masterpieces, on the walls of human experience. These possessions once rich and radiant were the essence and symbols of completeness yesterday. They are limitations to-day. In the fuller light of the broadening present they seem meager and mean. We must change and continue to change.

The years' experience of men engaged in association work has a message for us. Gov. Woodrow Wilson said to the American Medical Association: "It should be our object to unite ourselves with one unified interest, moving forward to the common goal of general service. I therefore ask you in your modern occupation to harmonize the various parts of our whole life to one another; so that heat, hostility, and friction may be taken out, and all the sweet and wholesome processes of life may be restored. President John B. Murphy said in his address, "It is important in every great organization, that rotation in positions of power and trust take place, otherwise in time, regardless of efforts that may be made to the contrary, personal interests, or idiosyncrasies, likes and dislikes, will dominate its management, which will of necessity be to the detriment of the whole. This rotation should be automatic in order that it may be entirely impersonal and democratic."

Again Dr. Murphy advised, "The house of delegates should and must remain in absolute control of every interest of this Association, and see to it that no individual, or combination of individuals, or council or board of trustees, can thwart its will, divert its force, ignore its instructions, or assume ownership of it. It has been and must remain the sovereign power."

Business meetings should be held uniformly in December as provided in the Constitution. The list of delegates should be published in the JOURNAL early in the year. The Secretary can not do this while elections are deferred.

Uniformity of program for county societies is feasible. I have prepared an outline for such a program and submitted it to the House of Delegates.

The program of the general meeting of 1912 has been prepared in sections, by sub-

committees as indicated in the published program in the September JOURNAL. We hope that this added council has given strength to the work. The Committee on Scientific Work compiled and published it.

A few exerecisees remain on the body of the Association. Old line insurance examinations are being made for less than \$5.00, and by members of the State Association. Especially are young men being tempted by a few pieces of silver.

Division of fees continue to disturb. When to a just fee there is added a sum which being turned over to the physician in charge, converts him into the financial agent of the surgeon, it becomes disgraceful robbery. Thou shalt not steal, applies to physicians and surgeons.

The abuses of contract practice; the degradation of underbidding for practice; direct and indirect advertising for work; and other matters might be discussed. All are but parasitic growths on our profession. They can not be ignored; but should not be magnified. "Every cure of the world's woes, whether concocted by philanthropic, political, socialistic, or parliamentary, combinations, that seeks to change the hearts and lives of men without the recognition and intervention of God, is a mockery, a delusion, and a snare." (Gen. Wm. Booth). We may not undertake a camp-meeting to convert these offenders. But we should make more distinct the line of demarcation between these men, and doctors of courtesy, fairness and common honesty. We should enhance the value of honorable membership in our county and State associations and place a ban on those who make themselves dishonorable. A discriminating public will do the rest.

There are 2200 members of the State Association. Fourteen hundred doctors in Kentucky are not members. The need of closer organization is apparent. Forty per cent of non-members is too great. I believe that the plan for an uniform program will be helpful, especially where our organization is weak. Part I is an outline of general subjects. Part II is this outline filled by the county committee, with subjects and each subject assigned to a member of the county society, (or chosen by the members). If the State Association will prepare Part I and after Part II is completed by the county committee, have it printed for use by the county society, the work will be strengthened and the membership increased.

The real value of membership should be emphasized. The JOURNAL has become one of the best; alone worth the cost of membership. Medical Defense is many times worth the membership fee. Insurance examinership often depends on membership. The social fea-

tures are valuable. Most important is the scientific study implied by membership. These items should be printed on the cover of the program as constant reminder. The one essential thing for a county medical society is a printed program for the entire year. This should be mailed as a one-cent letter before each meeting as notice of the meeting. It will also keep the work of the year constantly before the members. Good work will increase the membership. An organizer to visit each county society and spend a few days soliciting members would be very helpful. The increase of fees from new members would more than pay his way and salary.

Recent years have brought to us some wholesome legislation. Since laws are seldom enacted in advance of public sentiment, we conclude that there is a growing sentiment among the people for these things. Back of it all our profession is an essential part.

In 1909 this Association adopted the following: Prevention, management and treatment are the individual and social requirements of tuberculosis. The object is a well-planned, up-to-date tuberculosis infirmary in every county in the State; built by each county; owned by each county; controlled by each county; and with laws which secure protection of patient and people from further spread of the disease; and with facilities for treating the curable and caring for the incurable. In 1912 a law was enacted making this possible. Obnoxious bills have been vetoed at our request. In perfect organization we have power for good. Leaders will rise up and crystallize and utilize all the sentiment we can create. Other good things have been realized—an anti-tuberculosis commission and an appropriation of \$10,000 annually; \$30,000 annually for the State Board of Health; an individual drinking cup law, a vital statistics law, a bacteriological laboratory, a state institute for health officers; three (3) Rockefeller men doing hookworm work; and the people in accord, indeed in many places leading in this work.

When the Commission has instituted an infirmary in approximately every county in the State; when vital statistics are the basis of scientific work; when our bacteriologists have attained their highest usefulness; when health officers are paid for their entire time and are placed under civil service; and when the State Board has had a few more years like 1912, in dealing with hookworm, pellagra, tuberculosis, typhoid fever, and other preventable diseases, then, with the momentum which success always adds to an undertaking, *we shall see grand things indeed in Kentucky.*

We shall not assay the praise of the superior doctors of Kentucky. Many illustrious men have lived and become a part of our his-

tory. Many more who are equally praiseworthy live and work to-day. I make mention of one class who seem to have been overlooked, *the village doctor*. This class has many worthy representatives among us to-day. I take liberty to mention three, Drs. J. W. Cooper, President of Henderson County Medical Society, J. W. Ellis, our Delegate to the American Association, and C. Z. And, who has had every honor which we can bestow. These are Christian gentlemen. Their families are an honor to their communities. They are men of large estate. They give high-grade service, professionally and otherwise, to their people. They are men of the highest type; and they represent the best there is in life. A study of this class of physicians by men who are entering the profession would stay the mad rush to the cities where so many are eclipsed and lost sight of, and where their families are heard of no more.

We have purposely made this deliverance somewhat of a message to the State Association. We have discussed, the village doctor, legislation, membership, organization, compensation, future work, department of health, the year 1912 and given our salutation.

We now revert to the optimism of our introductory paragraph. The front page of the modern newspaper does not reflect the real condition of modern life. The crime and misconduct recorded thereon under glaring headlines is but one in a thousand. In smaller type, and in obscure corners, if at all, is the record of the life that you and I, and a great majority of our fellows are doing our best to live.

If in our State a few doctors are unfaithful to the tenets of our profession, this should not discourage us. Rather let us remember that 3,500 other doctors are true men in every sense of the term, and capable, and trustworthy. *We look with cheerful faith upon a triumph to-morrow.*

ORIGINAL ARTICLES

TUBERCULOSIS WORK IN EUROPE.*

By J. W. PETTIT, Ottawa, Ill.

The Irish have an expression that "far off cattle have long horns" which is only another way of expressing the thought that "distance lends enchantment to the view."

Because European countries are older and more particularly for the reason that many of them have been engaged in the warfare against tuberculosis longer than we have in this country, we have very naturally looked

to them for leadership and assumed that their methods were right and have blindly followed them without question. This attitude on our part has led us into serious blunders. This assertion is based upon a recent investigation of tuberculosis work as it is being conducted by our transatlantic brethren and applies with peculiar force to our slavish adherence to European standards of architecture in the construction of tuberculosis sanatoria.

The statements herein made are based upon definite data and the criticisms are unprejudiced. I found that while we have an exaggerated view of the progress they have made, they likewise have a distorted view of our work and in both instances, the mistakes which each have made have been overlooked, and the really meritorious things done have been magnified. Viewed at close range a better perspective is gained, and defects observed that could not otherwise be discovered.

I had already made quite a thorough investigation of actual conditions in this country, particularly from the sanatorium standpoint and found there was much knowledge that could not be gained by personal investigation.

The primary object of my recent visit to Europe was to investigate actual working conditions, particularly from the standpoint of sanatorium construction and treatment, and incidentally to attend the International Tuberculosis Congress at Rome. What I have to report is a report upon the conditions as I found them, based upon rather an intimate personal experience with the work in this country.

Until within the past year Germany has taken the lead, not only in scientific work, but in provision for sanatorium treatment. Germany has more sanatoria and has made greater advance in prevention and placing the early cases under treatment than any other country in the world. During the past year Great Britain has passed what is known as the National Insurance Act out of which is appropriated \$7,500,000 for tuberculosis work alone. The plan proposed is the most comprehensive thus far attempted by any government, and the appropriation larger. The act provides for compulsory notification, sanatorium treatment for the curable, hospital care for the incurable, regulation of milk supply, partial support of family during invalidism, special provision for infected children, increased attention to education along health lines in schools and colleges, and better houses for the poor. The total amount of funds available for this whole scheme is \$12,000,000 for the first year, which on a per capita basis would be equivalent to about \$30,000,000 for a like schedule in this country.

*Read before School of County Health Officers, Louisville, 1912.

The Committee which has been appointed to work out the plans in detail recommend among other things that a dispensary be provided for each 150,000 of urban population, and that sanatorium provision be made on the basis of one free bed for each 5,000 of population.

Perhaps a better idea of sanatorium conditions can be obtained by giving a detailed report of a few of those I visited.

Mt. Vernon, Northwood, England, accommodates 150 patients. None but early cases admitted. The outlay very elaborate and extravagant. Total cost \$6,000 per bed. Built by rich diamond miner of South Africa. No endowment and must be supported by subscription. Magnificent buildings and grounds including large and well lighted laboratory, but no equipment to speak of. Can only do ordinary routine work. Treatment only hygienic. It is a serious question whether this institution can be maintained much longer by public subscription.

King Edward Sanatorium, Midhurst, 65 miles from London. Built by rich friend of King Edward the VII., who allowed the use of his name without knowing the plans in advance. No one knows how much it cost, but reputed to be not less than \$10,000 per bed. King Edward did not know what had been done until he was asked to dedicate it. It is said he was amazed and outraged when he saw what had been done in his name, and only barely repressed publicly expressing his disapproval. In private he did not hesitate to say that it was a piece of stupendous folly, and regretted exceedingly that his name should bear the odium of being connected with it. This is one of the English institutions which is most frequently referred to and which has been accepted as the ideal standard by many who are not familiar with the facts. This sanatorium is in reality a monument to the King and only incidentally for the cure of tuberculosis. It is the most conspicuous example of extravagant folly in the whole history of the tuberculosis movement.

Frimley Sanatorium, Sussex County, Adjunct to Brompton Hospital, London. Located three miles from railway station in pine woods. Rough, unproductive land. Location unsightly. Built very much on same lines as Mt. Vernon, Northwood, only not so expensive. Cost about \$3,500 per bed. Graduated labor distinguishing feature. Apparently logical, and made possible because none but early cases are admitted. Institution new. Grounds rough, making vast amount of work necessary. It is questionable whether the plan of graduated labor can be conducted after improvements are all made as the land is not suitable for farming excepting at enormous expense for subduing and fertilizing.

Benenden Sanatorium, 65 miles from London; for industrial classes only. Eight miles from railroad. Unforbidding location. Buildings economically constructed, costing, including land and equipment, \$750 per bed. Graduated labor. Mostly farm and garden work. None but incipient cases received. Treatment up to date so far as finances will permit. Model institution of its kind and the only one in Great Britain built along economic lines.

There are numerous small sanatoria throughout Great Britain both private and public but none of them doing more than ordinary work. Private sanatoria are for the most part rather cheap affairs doing crude work and conducted more on the boarding house plan than as scientific sanatoria. The institutions specified, particularly the more expensive all have good laboratories, but little or no equipment or funds to conduct them. The same is true of maintenance in every particular. The King Edward and Mt. Vernon Northwood, are instances of rich nabobs glorifying themselves by erecting monuments to themselves under the guise of philanthropy and letting the institutions struggle for an existence.

There is no factor in the treatment of tuberculosis either from a scientific or economic standpoint of more importance than sanatorium architecture and none which has received less attention or in which more unscientific and economic blunders have been made. England copied Germany's mistakes and we have copied the mistakes of both countries. The most serious and expensive mistake which has been made in the tuberculosis propaganda throughout the world is in the irrational and extravagant expenditure of money in the erection of massive buildings for the treatment of tuberculosis. The public have become so accustomed to every philanthropic outburst being associated with some palatial building that it is high time we should urge that the current of philanthropy find expression in the modest and comprehensive scheme of practical medical men, rather than in the grand and ambitious methods of the builders.

It is a strange anomaly that charity patients are in many instances provided with better accommodations than even the well to do could afford if these institutions were conducted on a business basis. Such a plan is as irrational as it is unscientific, and has a tendency to break down the whole system by unnecessary expense and it is to correct just such mistakes as have been made, and will continue to be made, until the public have a better understanding of the necessities of the situation, that makes it necessary in connection with the tuberculosis propaganda to conduct a campaign against such extravagant

and irrational methods of applying the treatment. There are other large expenses connected with the campaign against tuberculosis and all the funds at our command should not be exhausted in building sanatoria which is only one factor in the warfare. Where there are so many things to be done we should conserve our resources. They certainly should not be exhausted or wasted in the construction of buildings, which are not only not needed but are worse than useless. Thus far in all countries sanatoria have absorbed the major part of the funds appropriated, leaving little or nothing for anything else, not even the support of the institutions themselves.

I would not feel so free to criticize after having been treated so courteously by the officials of these several institutions were it not for the fact that I find that those in charge as well as physicians and sanatorium officials everywhere are unanimous in their condemnation of this extravagant expenditure. This being true, it is interesting to know how the custom became established.

Brehmer, Detweiler, and other pioneers in the sanatorium movement, although advocates of fresh air, at first had rather crude and imperfect ideas as to its application which led them to make many mistakes judged by present standards. One of these was to follow the conventional hospital plan of architecture. As a result all the earlier institutions are massively built and only with a view to applying fresh air during the waking hours. As the movement progressed medical men saw that the massive building was irrational from a scientific standpoint, and set about to devise simpler styles of architecture. This has necessarily taken a number of years to accomplish and there is much yet to be done before ideals are reached. In the meantime the tuberculosis sanatorium became more popular. The demands of the situation became more and more apparent with the result that philanthropists came to the aid of many communities in supplying all or part of the funds necessary for their construction. Instead of consulting practical sanatorium officials and keeping pace with the rapid progress made, they invariably placed the construction of these institutions in the hands of architects who knew nothing of the scientific demands of the situation with the result that palatial monuments to the donors have been erected, instead of sanatoria for the sick. The result has been to establish standards that others have blindly followed on the assumption that practical men were responsible for this style of architecture, hence it must be necessary. It is a serious question whether or not these so-called philanthropists have not done the cause more harm than good.

The problem of housing tuberculous pa-

tient is so new and radically different from the housing of any other class of patients that it is not surprising that those charged with the responsibility for the expenditure of public or private funds are at a loss to know how to proceed. These men are usually laymen and very naturally the first step they make is to visit institutions already in existence. These have for the most part been unnecessarily expensive. The result is that these mistakes are duplicated where there are sufficient funds at their command, or the whole plan is abandoned where there is not.

An illustration in point. Five years ago the legislature of a neighboring state made an appropriation of \$75,000 for a State Institution. The Board of Control was composed of three intelligent laymen. They had absolutely no conception of how to proceed, and very naturally visited some of the elaborate institutions in our eastern states. They found that no state had an institution that had cost less than \$250,000 and many of them much more. The same was true of other sanatoria whether public or private. They had had great difficulty in securing the apparently modest sum of \$75,000 and knew that it was utterly useless to attempt to secure a larger appropriation, hence were about to abandon the whole enterprise. I was consulted, and insisted they had sufficient funds to make a good beginning if expended properly. They were advised to construct simple, inexpensive buildings. This advice was followed and within less than a year they had an institution in operation for the accommodation of 100 patients at a total outlay for lands, buildings, and equipment, of \$90,000. With the experience since gained, I am sure this institution could have been duplicated for even less. We are indebted to an English physician for suggesting the sanatorium treatment; to the Germans for systematizing it, but it is left for the practical Americans to simplify it and put it on a more economic basis.

If any of these extravagantly built institutions had been endowed with what has been spent uselessly in buildings it would be amply sufficient to support them liberally and still allow a good margin for scientific research. This wasteful extravagance is the result of the dominating influence of the men of money over the men of science.

The application of our present knowledge of tuberculosis is practically a new proposition, and it is to be expected that the inventive genius of the American will work it out to better advantage than the less inventive and less adaptable Europeans. As a matter of fact the Europeans freely confess that in all problems involving organization and adaptation, we are expected to lead.

While there is practical unanimity through-

out the civilized world as to the treatment of pulmonary tuberculosis, there is a radical difference between methods of treatment of the so-called surgical forms of tuberculosis in Europe and the United States.

In Europe, especially in France, and Germany, quite as much attention is paid to closed and surgical tuberculosis as to the pulmonary form of the disease, while in this country this class of cases is practically neglected. The treatment in Europe is almost exclusively hygienic and dietetic. Operative procedures are only resorted to in exceptional cases. For example in one institution of 1,100 beds exclusively for children under fifteen years of age, I was informed that not more than six cutting operations had been performed in the past three months. These institutions are usually located along the seashore. One illustration will suffice for all.

Berk Plage, located on the north shore of France, 35 miles from Calais, splendid beach, wide expanse of sand, village of 10,000 people which includes 4,000 cases of surgical tuberculosis. Supported by the City of Paris. Plan of buildings good. While substantial not necessarily expensive. Abscesses are aspirated and injected with iodoform. Glands are never operated upon unless discharging and then are merely cleaned out thoroughly and dressed antiseptically. Operations on long bones more frequent, but only then when there is extensive necrosis or abscess formation. Operations radical when indicated. Plaster casts in suitable cases.

There are several charitable institutions located here and hundreds of private patients flock to this village from all parts of Europe who for the most part live in pensions. A novel feature of the treatment is the earriages constructed especially for patients in casts which permits them to move about even when compelled to constantly maintain a prone position.

In Switzerland, Germany and Italy, there are many institutions for the treatment of surgical tuberculosis particularly in children, and the results of treatment are very satisfactory. In France the virtue of the treatment is supposed to reside in the sea-air, in Switzerland, the mountain air, while in Germany and Italy, it is simply air. It is well known that in this country about all we do for our surgical cases is to operate upon them and place them in the wards or rooms of a general hospital. My personal opinion is that we operate too much, and they operate too little, and that the best results would be obtained by supplementing the surgical skill and technique of the American surgeon with the hygienic-dietetic, tuberculin and vaccine treatment of the Europeans. They occupy one extreme, and we the other. It seems rea-

sonable to assume that the truth lies somewhere between the two extremes. At any rate their results are certainly far superior to ours.

*The International Congress on Tuberculosis was held in Rome, April 14th to 20th, 1912. There was no striking discovery presented at the Congress similar to that of Robert Koch when he announced the non-identity of human and bovine tuberculosis. There was very little of what can strictly be called original work, and none of it of epoch-making importance. The suggestion which attracted the most attention was the discovery of the relation of bovine and human tuberculosis. This was discussed very thoroughly in the convention which preceded the Congress proper, and the discussion was participated in by the master minds of the leading European nations. The discussion was characterized by eminent fairness and a disposition on the part of all to arrive at the truth. During the past three years and a half numerous investigators have been at work upon this very important and very practical problem, and while the leaders are not yet in perfect accord they are much nearer together than they were at the last Congress,—near enough at least to make it possible for them to agree unanimously to the following resolution:

Resolved, First, the prophylaxis against tuberculosis must principally be directed against the suppression of contamination from man to man and principally in the family.

Second, the contamination of man by bovine infection is of less frequency, nevertheless it is necessary to continue all measures against infection of bovine origin.

By way of explanation it may be said that this is a compromise resolution and really represents the conservative view still held by the German school, who, while willing to admit the infection of man from bovine sources, does not regard it as a serious menace. The English and Scandinavian investigators regard it as a serious menace, with the French occupying a position somewhere between these two extremes. In the discussion there were certain local conditions brought out in the several countries which may account for the differences in the findings of the several investigators. For example in Germany and France milk is usually cooked, while in England and the United States it is usually taken raw. There also seems to be more bovine tuberculosis in some countries than others, and especially in the colder climates, and also more tuberculous cattle in different localities

*Taken from author's report of International Congress on Tuberculosis for the Journal of the American Medical Association.

in the same country. It may be found later that these local conditions have an important bearing in certain localities and if so it will tend to fortify and strengthen the views expressed in the resolution.

The work of the British commission may fairly be regarded as the most reliable. Their work has been far more comprehensive and open-minded. The British Commission have no pre-conceived views but are simply seeking the truth, while the German school are apparently followers of Koch, and seem to be seeking to establish his views rather than to arrive at the truth.

The suggestions that attracted most attention from the standpoint of treatment was a revival of the method of treating unilateral pulmonary tuberculosis by the production of artificial pneumo-thorax, certain aspects of immunity, and heliotherapy. It was significant that very little was said on the influence of climate *per se* in the treatment of tuberculosis, except surgical forms in which the French insist upon the virtues of sea air, while the Swiss insist just as strongly upon the specific influence of mountain air and sunlight. Inasmuch as they are all securing substantially the same results, it is fair to assume that the final conclusion will be, as in the treatment of pulmonary tuberculosis that the virtues of their methods consist in fresh air and sunshine rather than any peculiar attributes either of sea or mountain air. Both nations are to be congratulated upon their excellent work in this important and much neglected branch of the work. The United States seems to be behind all the leading European Nations in making provision for the scientific and systematic treatment of surgical tuberculosis.

While but little that is new of definite value was developed by the Congress, it was interesting to note the decline of former views with regard to the influence of climate and the growing sentiment, not only in favor of sanatorium treatment, but the further fact that the results by other methods are unsatisfactory.

The hygienic and dietetic treatment of tuberculosis is accepted in Europe as fundamental and whatever changes are made in the future will be with the present methods of treatment as the basis. The use of tuberculin as a diagnostic and therapeutic agent is no longer questioned by those in a position to speak authoritatively. Vaccines and serums are regarded with favor, but are still in the experimental stage.

A dominant note of the proceedings was that instead of looking for a specific remedy for tuberculosis, the protean character of the disease was recognized, and instead of directing our energies to the discovery of a single

remedy or method, intensive study is being focused on the several methods which must be devised to meet the varying conditions.

If nothing new of practical value was developed, the work of the Congress was none the less notable. Several new lines of attack were developed, and while practical results have not been obtained, the indications are that some of them will prove successful. Be this as it may, the most encouraging feature of the Congress is shown by the activity which must result in vastly improved methods of treatment, as has hitherto been done in other diseases, which seemed as formidable as tuberculosis now does.

In all the countries of Europe they have passed through that period of over-enthusiasm as to results of treatment through which we are now passing, and which is so discouraging to practical workers in this country. The sanatorium has taken its proper place in the fight against tuberculosis and sanatorium physicians are not embarrassed by being expected to accomplish more than is possible and criticised because they do not meet the demands of an over-enthusiastic public.

In the matter of governmental control European nations and especially Germany and Great Britain are far in advance of the United States. In the matter of social organization we are in advance of them, and the outlook far more favorable for effective work in the future. This is perhaps due to the difference in political and social conditions. It is easier to enforce police regulations in European nations because their forms of government are more paternal. On the other hand it is easier to inaugurate and conduct social movements in the United States for the reason that we do not have to overcome the class distinctions which obtains in even the most liberal European nations. It is generally believed, even by Europeans themselves, that more can be accomplished by education than by legislation, although each must supplement the other, hence our transatlantic brethren are looking to us to take the lead in this great warfare which for the most part must be conducted along educational lines.

CONSTIPATION.*

By J. C. McCREARY, Cave City.

Constipation is an unnatural prolonged retention of the feces in the alimentary canal; a retarded defecation; or we might term it a symptom arising from a variety of morbid conditions of the intestines and not a distinct disease of itself. The term is a relative one, strictly natural law governing intestinal

*Read before the Barron County Medical Society.

evacuation in the human species requires one, two, and sometimes three, discharges every twenty-four hours; on the other extreme some may enjoy excellent health with one movement a week or if the diet has consisted of chiefly fluids and absorbed, one a month.

ETIOLOGY.

General—(a) temperament, (b) habit, (c) diet, (d) bodily weakness, (e) exercise and prolonged diuresis and diaphoresis.

Local—(a) atony of the abdominal muscle, (b) atony of the large bowel, (c) pressure by tumors, (d) intestinal stenosis, (e) congenital stricture.

Temperament: I have been much struck with the part that temperament plays in constipation. If you will carefully scan over your constipated patients you will not fail to observe that the majority of them are of a nervous, bilious temperament of the dark or brunette type, anemic, pale skin, dark hair, torpid liver.

Habit: Found most frequently among those leading a sedentary life by which natural calls are irregularly attended to or neglected is sure to lead to an over-distension of the lower bowel and rectum, and is a common cause of chronic constipation. Among the females we have the false modesty that prompts postponement and suppression of all desire to defecate, especially in public places, also the habitual, hurried performance of the act, in cold illy-kept closets; all of which has a tendency to obtund the sensibility of the bowel to fecal matter contained therein. This accumulation in turn causing an overdistension, a hardening into scybalous masses, difficult of expulsion.

Diet: Diet plays an important role in the cause of constipation. A constant and continued use of concentrated articles of food, such as meat in which there is little residue left to stimulate the bowel to peristalsis, again the diet may be of such a very coarse variety, and leave an excess residue and cause impaction of the bowel.

From obvious mechanical reasons, it is necessary that there be a certain bulk or volume of fecal matter, in order that the intestine, the colon in particular, may easily grasp and propel it along to its destination; and for similar reasons, a too small amount of food, even though it be of proper composition, will produce the same effect. Constipation may arise from the too scanty taking of fluids, whereby the feces become dry and hard, lacking the smoothness which normally enables them to glide along the mucous lining of the intestine without friction. Overloading the bowel with food of a bulky and coarse nature may produce constipation by overdistending and weakening the intestinal tube. Beverages

that contain tannin, such as tea and the red wines have a tendency to lessen the intestinal secretions and produce constipation. Negligence in the regularity of eating and defecation, imperfect mastication, sudden changes in the quality, and the quantity of foods. Most fevers are attended by constipation, on account of the diminished secretion of the digestive and other fluids which are common under these conditions.

Bodily Weakness: Constipation will bring about general bodily weakness, hysteria, neurasthenia, spinal cord affections, hepatic disorders, jaundice, and an habitual dependence upon the use of purgatives.

A prolonged and excessive action of the kidneys and sweat glands may rob the bowel of its necessary fluids and cause constipation.

Local Causes: Constipation may be due to a weakened condition of the abdominal muscles on account of which the voluntary expulsive efforts of defecation can not be made; of such, we might mention, during pregnancy, obesity and abdominal tumors. There may be such local conditions, as to prevent the emptying of the rectum, by causing pain, with consequent reflex spasm of the sphincter; of such we might mention, fissure of the anus, inflamed hemorrhoids, ulcer of the rectum in or near the anus, irritable and inflamed prostate gland, a tender and prolapsed uterus in a female.

The depression of the abdominal and pelvic viscera down upon the rectum by the present well known habits of dress among the females is one of the causes why women suffer more from constipation than men. There is a form of rectal constipation existing among females, which has received too little attention; it is that form caused by the pulling down of the recto-vaginal septum, thereby forming a pouch in the posterior vaginal wall which constantly increases in size, changing the direction of the intra-abdominal rectal pressure to the vagina instead of the rectum. Making it difficult for the rectal sphincters to relax so as to void the contents of the bowel; the result of which is an incomplete defecation.

There may be tumors located along the intestinal tract of sufficient size to be plainly palpated, bimanually, and this condition cause constipation. Constipation may be the result of a pyloric stenosis, the result of the limited amount of food entering the intestine, but in this condition the vomiting which usually accompanies it is sufficient to direct attention to the stomach. The most important and we might say the most serious condition which might be indicated by constipation is intestinal obstruction. An obstinate case of constipation not yielding to the ordinary and appropriate remedies should arouse a suspicion, and especially when associated with

nausea, vomiting, distention of the bowels, and abdominal pain. Having spent sufficient time on the etiology of constipation we will now pass on and give you the leading symptoms, classing them under two heads, direct and reflex.

Direct or local symptoms are experienced by a sense of fullness, weight in lower part of bowel, and perineum, flatulence, pains of a colicky nature, sometimes alternating with diarrhoea, occur frequently. The calls of nature are often attended to hurriedly not completing the act, the bowel is only partially emptied by the movement, then we have a sense of fullness, the complete relief not experienced.

Reflex: Reflex symptoms are headache, irritability of temper, malaise, languor, hebetude, palpitation, flushing of the face, vertigo, menstrual troubles in women, sleeplessness, bad dreams, neuralgias, coated tongue. If the abdomen be palpated you may be able to locate fecal tumors at the hepatic splenic, and sigmoid flexures, of hard, round, doughy-like masses.

PATHOLOGY.

If permitted to continue for a time, we will have an irritation or inflammation of the mucous membrane coming in contact with the retained feces, causing temporary diarrhoea, with pain and tenesmus but the more frequent result of constipation is the formation of a septic material, and its absorption, creating a degree of autoinfection, accompanied by feelings of depression, loss of appetite paroxysms of sick headache, and vertigo.

PROGNOSIS.

When constipation is the result of intestinal obstruction, the prognosis depends altogether upon the nature of the obstruction, its removal or curability. When it depends on the weakened condition and loss of peristaltic action brought about by the patient's erroneous habits of life, the prognosis is good provided the habits of patient can be permanently corrected, otherwise the relief will only be temporary, and relapses will soon follow.

COMPLICATIONS AND SEQUELAE.

The complications you are all familiar with; hemorrhoids, fissures, mucus and ulcerative colitis, perforation, and enteritis, in old people enteroliths, or calcified scybula, hernia from violent straining, intestinal obstruction, and cerebral hemorrhage.

TREATMENT.

We now come to the treatment which I propose to place under three heads: Hygienic, drugs and mechanical; I would again subdivide the hygienic into, habits and diet.

First of all the causative factors, should receive our attention, and be removed, modified

or lessened. Have our patient to establish a regular time and frequency of going to stool, let this be the time of day that best suits the individual case, but when that hour comes let nothing interfere. Attention to the calls of nature should be considered a duty, and proper time and attention must always be given to the completeness of the act.

You will observe that all young girls especially need instruction along this line. A sufficiency of bodily exercise is imperative and let that be such as affects the abdominal muscles, and in the males I know of nothing better suited to the case than the use of the old fashioned buck-saw, this in addition to exercising the arms, is an especial stimuli to the muscles of the abdomen.

Diet: Instruct your patients to eat the proper food and in the proper manner. Eat a great deal of fruit and such articles as contain irritating undigestible residuum, should be the ones chiefly selected. I would especially recommend oatmeal, corn meal, and the unbolted wheat flour, raw prunes, figs and dates are all excellent if thoroughly masticated. A pint of cold water drunk regularly at bedtime and in the morning before breakfast are very efficacious. How strange and singular it is that "Beauty Specialists" have not yet found out that the daily evacuations and the morning cold bath, with open air exercise, are worth car loads of cosmetics, paints, powders, pastes, massage, etc., which they advertise so loudly in our daily papers, for the complexion. We all know that there are no cosmetics that can remedy a blotchy, muddy, pimply complexion, and there is no tonic that will bring the bloom of youth to the woman who is constantly absorbing into her blood, the impurities and liquid portions of her feces from her alimentary tract.

Drugs: Drugs occupy a subordinate position in the treatment of habitual constipation. The constant use of laxatives or purgatives only tends to make conditions worse, and at last an ultimate resistance to the actions of cathartics at a time when circumstance would really require their use.

Drugs employed to unload the bowels, may at times be used, but let it be sparingly; the mildest forms being selected.

Constipation is only temporarily relieved by cathartics, and their frequent use only tends to render the bowel accustomed to their action; it being a well known fact, that when once this dependence upon drugs is formed, larger and larger doses are required, until the patient is unable to have a passage without first taking a handful of pills and they of the most powerful cathartic group and enormous doses. It is upon this principle that fortunes are made by the makers and sellers of the patent medicines, that are continually be-

ing displayed in our daily, weekly and Sunday papers, the effects of which you are also familiar with.

The indications for treatment should be very simple; open the bowels and see that they are kept open daily, by as little help as is necessary, until you have a habit established sufficient to restore the organs to their normal functions. The remedies that I have found most efficient in my ten years of practice are the laxative granules composed of the following drugs, aloin, atropine, oleoresin capsicum, emetin and bilein. The therapeutical effect of each drug being particularly indicated in the treatment of constipation. In aloin we have a stimulator of peristalsis, and most especially affecting the muscle fibres of the rectum, the dose never exceeding half a grain. Large doses do harm and you never get the tonic effect that you need, but exhaust and create an irritability by over stimulation. Strychnine is also a stimulator of peristalsis and the nerves of sensation lining the mucous membrane of the bowel, and thus rendering it less tolerant of the contents, thereby affording more power to throw it off.

Atropine overcomes the tendency of the aloin and strychnine to produce griping. It also favors and assists their laxative action by producing a paralysis of the terminal ends of the nerves. Since atropine lessens secretions it becomes necessary that we add something to overcome its effect in that direction, hence we add emetine, which is a stimulator of secretions, and this is especially needed if the stools are inclined to be dry or costive. Capsicum is also included also as a stimulator of secretions and to increase the sensibility of the mucous membranes. I have many times used the above remedies without the capsicum but never with as good results. In bilein we have a liver stimulant and eliminant, and it is also a stimulator of peristalsis. The manner of giving these drugs is a very important one. You should begin by giving a sufficient number of the granules to produce one daily evacuation of the bowels; now divide this quantity into three equal parts, one part to be taken before each meal.

After a few days it will be found that the number in each dose can be reduced somewhat and as the bowels become stronger and habit of regularity well established, the number of granules at each dose is gradually lessened until one will produce the desired results, but I think it well to continue the one for some length of time, more for its moral effects than anything else that it might accomplish. In fact in some cases it is well to give a placebo to some patients for a time, so strong is a pill fixed in their mind with the movement of their bowels.

If the above suggestions be carefully car-

ried out you may expect to cure your patient of constipation.

Mechanical: As to mechanical means, I wish to say but little, since I consider the most of them harmful. Enemata is injurious if long continued, by reason of its irritating effect on the mucous membrane, of course they have a temporary use, when we have a weak irritable stomach, or wish to relieve a loaded bowel or flatulence. Suppositories do but little permanent good. Dr. Hirschman mentions a method of dilating the rectum and lower bowel by means of a bladder like rubber sack introduced into the rectum as high as possible, allowing the stem end to extend outside the rectal orifice, and to which is attached an ordinary syringe bulb, and by this means the bag is inflated until it gives the patient discomfort or to the point of tolerance and remains in that condition for five or ten minutes when the air is allowed to escape, after waiting a few minutes repeat; this treatment is repeated daily for from five days to a week, when he states that usually after about the second treatment the patient will have a small unaided action from the bowel, and each day following a slightly larger and more satisfactory stool. When the defecation approaches normal the treatments are given only on alternate days until finally left off altogether, he reports some excellent results.

Massage: Massage has a right to claim an important part in the relief of constipation when properly carried out. It acts by stimulating peristalsis and the abdominal muscles and when employed should be given at a certain time of day and preceeding the time for a desired evacuation of the bowel. Massage stimulates abdominal circulation, dispelling certain passive congestion, increases the muscles in volume and strength and is the best curative agent for constipation from muscular paralysis not due to central nervous diseases, best curative agent for constipation due to anesthesia due to local causes, but is contraindicated when the constipation is due to inflammation or tumors.

My paper has been prepared, assuming the constipation to be in adults, the subject is too lengthy to include children which require in most cases, an entirely different treatment and is worthy of a paper relative to them alone.

RHEUMATISM IN CHILDREN.*

By J. F. DUNN, Arlington.

Rheumatism is a constitutional disease, marked by inflammation of the connective tissue structures of the body, especially the muscles and joints, and attended by pain in the joints or muscles. It affects all classes of people, both sexes and all ages from infancy to the extremely old; however, it is much less frequent or severe in children perhaps from the fact that they are not subject to so much exposure as adults.

In children, of which this paper treats, it rarely occurs in the first few months of life, or else we fail to recognize it. There are a few cases on record that were found at nine months of age and possibly a little earlier still. It is more prevalent from the 5th to the 10th years. It is also more frequent in the damp, cool season of the year.

Heredity plays an important part in the etiology. Children whose parents have had rheumatism are more commonly and more severely attacked than others. It is found frequently among those who have poor hygienic surroundings and are ill-clothed and fed. Large families that live in small tight houses and are deprived of their allowance of pure air are very susceptible.

SYMPTOMS.

Unlike adults—the symptoms in children are, as a rule, very mild, in fact, so mild that if we are not very watchful we are liable to overlook it and serious complications may arise.

Not many joints are affected, it being confined principally to the ankle, knee and wrist joints. Pain and swelling are slight and redness is usually absent.

The child has a little fever, usually ranging from 100 degrees to 101 degrees, cries and favors the affected joint or limb and cries out when the affected part is touched. Occasionally the patient has no fever and the only symptom is pain and tenderness in the joint. Children that cry with the knee-ache at nights should receive careful attention, however trivial this symptom may seem.

This disease is in itself not dangerous, but the one complication, especially, which the object of this paper is to bring out, viz.: endocarditis, which cometh like a thief in the night, should cause us to stand as guards over our little patients almost constantly from the time the first little knee-ache appears till their systems are perfectly free from any sign of rheumatism. This complication is a very common one and Koplik says its absence is rare. It is often overlooked and may be

detected by auscultation and later by inspection and palpation. On auscultation the mitral regurgitation may be heard which consists of a blowing systolic murmur at the apex of the heart, often transmitted around the left side of the chest to the back and is heard at the time of the radial pulse beat. Later on, inspection and palpation reveals the dilated condition of the heart.

There is no immediate danger connected with this condition, but if left alone it gradually grows worse and chronic valvular disease results, finally becoming serious and endangering life. Therefore, it is of the utmost importance that this condition be recognized early and corrected.

Other complications may arise, for instance chorea. This is closely associated with rheumatism as well as endocarditis. In fact, Holt says that when you have any one of the three conditions—chorea, endocarditis or articular symptoms, always look for the other two.

Tonsillitis and torticollis are believed to be of a rheumatic nature. I had a case of tonsillitis last winter in a boy six years old, followed by torticollis. Some of you saw the case last spring. I believe it was of rheumatic origin, however rheumatic treatment had very little effect although it was not continued very long as he fell into the hands of an osteopath. The case is of nine months' standing and is no better at present.

DIAGNOSIS.

It is an easy matter to diagnose a case of rheumatism in an adult, but in a child it is not so easy. By using good common "horse sense" and drawing on our imagination we can generally recognize it. We should inquire into the family history as heredity plays such an important part.

The trouble has to be differentiated from tuberculosis of the joints, in which case it is confined to a single joint. The onset is slow and gradual and covers a considerable period of time, with no remission or intermission of symptoms. The case gradually goes from bad to worse, while on the other hand, in rheumatism the onset is usually sudden and the symptoms last for two or three weeks and then disappear or lessen in severity, even without treatment only to be repeated later and becoming worse in damp weather.

The history of previous attacks of articular symptoms, of tonsillitis or torticollis aid us considerably in the diagnosis. There are two symptoms that are certain diagnostic features, which, when present, will always exclude tuberculosis, viz.: 1. Involvement of other joints. 2. Endocarditis. Whenever you have these two conditions in connection with articular pains you may rest assured it is one of rheumatism.

*Read before the Carlisle County Medical Society.

This disease is more often overlooked entirely than confounded with other diseases. This is where the danger lies. The little patient comes to us for relief and we perhaps in a hurry give them only a passing glance, pronounce it growing pains and let them go, telling the mother they will outgrow it. This occasionally proves to be a serious mistake. I often think of a statement Dr. Stuckey made to our class while in college. He said, "Boys always examine your office patients carefully whether you are looking for anything or not, they appreciate it, and often you will find conditions you least suspected." This rule "holds good" in rheumatism, especially.

PROGNOSIS.

The majority of cases get well, even without treatment, but occasionally the cardiac condition develops which could have been prevented, had we only given them the benefit of the doubt. I would much rather be guilty of giving a bunch of little fellows some medicine they didn't need than to neglect them and, through my negligence, one of them develop conditions that would perhaps cause years of suffering and may be death.

TREATMENT.

Having diagnosed our case as one of rheumatism, we should, however mild the case may be, put it on active treatment at once. Even in the mildest of cases much mischief could be going on in the heart.

The diet should consist largely of milk and foods containing little or no starch. They should be kept in the house in damp weather and comfortably clad the year around. Give them plenty of fresh air and sunlight. If the child has any amount of fever keep it in bed until it is normal.

Holt says that absolute rest and equable temperature are unquestionably of more importance than anything else in protecting the heart during a rheumatic attack. Salines should be given freely. In fact the medical treatment is about the same as in adults, salicylates in some form, alkalies and free catharsis.

During convalescence and between attacks general tonics should be administered, such as iron, cod liver oil, etc.

The little fellows have enough aches and pains at best, henceforth, let us always be on the alert, examine our little patients carefully, watch them closely from day to day and at the end of our toilsome journey we can look back with the sweet assurance that our medical lives have not been a complete failure.

REPORT OF A CASE OF HOOKWORM.

By ELDRED A. DAVIS, Earlington.

I wish to report a rather peculiar case of complete night blindness, probably caused by hookworm infection.

Alex S., day laborer, age 32, American, married, family history negative. Well developed case of hookworm infection. Greatly emaciated, progressive loss of weight from 160 lbs to 110 lbs. Infection of probably several years standing. Marked bulmia, ground itch on hands, reflexes diminished, chest normal, abdomen distended, occasional diarrhoea, urine showed no albumin or sugar, no pains about the body, no swelling of hands or feet.

Patient could not see, except on bright sunny days, had not seen stars or moon in three months, could not move about at night or cloudy dark days. After ova was found in feces, thymol was administered in the routine manner 60 grs. and two weeks later 40 grains more were given.

Symptoms began to subside and patient resumed work, increased in weight, and suddenly one night after the second dose of thymol vision returned. Patient is still gaining and has normal vision at night.

I report this case in hopes that some one can offer some explanation, as I can find nothing on the symptom in literature.

THE FORUM

REPORT OF DELEGATE TO THE NATIONAL CONSERVATION CONGRESS.

By V. E. SIMPSON, Louisville.

I have just returned from Indianapolis where I went to attend the National Conservation Congress representing the Kentucky State Medical Association.

The Congress is doing a work tremendously potent for good and attendance thereto is worth any man's while. A casual perusal of the list of speakers guarantees the highest standard possible, including, as it does, the names of men and women whose work is attracting national attention, while the wide range of subject matter covered offered something of interest to every kind of mind which Conservation in any of its legion of forms and activities appeals. While such meetings always offer an opportunity for the fanatic and zealot, with vigorous but impractical ideas, to exhibit their wares yet so much of good wholesome thought, such radiant reflection in speech of tangible things being done, that even the crank seems endowed with prophetic vision.

I heard a most masterly address by Gov.

Woodrow Wilson yesterday afternoon (I did not hear his address at night which was political) on the Conservation of the Nation's Vital Forces. He is a logical and at the same time a charming speaker. Gov. Hadley spoke this forenoon and his address was well worth hearing. Drs. Wiley, Hurty and Dowling spoke on Tuesday hence I did not hear them. I called on Dr. Hurty at his office yesterday afternoon and had a few minutes talk with him. He is, as you know, quite enthusiastic about his work, though, perhaps, a little impatient of opposition on the part of the people.

I was especially interested in the exhibit of the Indiana State Board of Health. Dr. Hurty apologized to me about its incompleteness, much of their material being, he said, on the Health Car which was out of the city. There was a rather large array of impure foods, particularly those that were sold before the Food and Drugs Act became a law, showing the real contents and sources of stuff from which they were manufactured together with an estimated cost, etc. Patent medicines were on exhibit with analyses, labels showing changes of formulae and others which had been once advertised for one disease, as syphilis for example, and now advertised as a sure cure for tuberculosis. The fly came in for a goodly share of swatting and the baby was not forgotten. The Entomological Bureau of the State had an exhibit of insects and fungi infesting fruit trees and plant life was very interesting and instructive. There was even a "model home" erected on the main floor of the exhibit hall. I thoroughly enjoyed the meeting.

TYPHOID SERUM

I will consider it a favor if you can find space to include in the next number of your journal the following letter that will be self-explanatory.

About six years ago the writer began to use vaccines in the treatment of typhoid fever. Since that time he has thus treated more than one hundred cases and has obtained numerous articles upon the same subject written by physicians in various parts of the world. It seems possible, however, that some may have escaped notice. He also realizes that many of the profession may have treated some cases without reporting them. A paper upon the subject is now in the course of preparation. In this it is earnestly desired to incorporate reports from a large number of cases, good, bad, and otherwise. He accordingly makes the following request to the readers of this JOURNAL:

Will any one who has used vaccines in the treatment of typhoid fever, whether but one case or more, kindly communicate to him that

fact accompanied by name and address of the reporter. If the results have already been reported, a note of the journal in which they appeared will be sufficient. If they have not been reported, a short blank form will be sent to the physician to be filled out. Due credit will be given in the article to each person making a report. If any physician happens to know of other confreres who have any such cases, it will be appreciated if he sends their names, as they may not happen to read this note. It is hoped that by this means a sufficient number of cases may be collected to somewhat definitely settle the now mooted question whether vaccines are or are not of benefit in typhoid fever therapy.

Reports of cases will be accepted at any time in the future but preferably by November or December of the present year.

Kindly communicate with Dr. W. H. Waters, Director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research, Boston, Mass.

COUNTY SOCIETY REPORTS

Warren—The Warren County Medical Society held a meeting and barbeque at Chalybeate Springs, Tuesday, September 17th, with the following doctors present: W. L. Heizer, Simmons, Wood, Rau, Helm, Blackburn, J. N. McCormack, A. T. McCormack, Posey, Souther, Cook, Martin, Ewing, Grider, Hampton, Drake, Reardon, Stone, Thomas, Hall, Briggs, Rodgers, Richmond, Lewis. Many physicians came in cars with their families to spend the day at this delightful summer resort.

W. W. Richmond had arranged for a hookworm dispensary and more than 200 people attended, many of them bringing specimens for analysis. The doctor also gave a lecture on sanitation and described his work in Edmonson county. Many patients with hookworm infection were present.

A. T. McCormack delivered an address on the "Result of Work for the Eradication of Hookworm."

W. A. Briggs reported a case of pellagra. This case was seen by several physicians who concurred in the diagnosis.

J. N. McCormack discussed this case and spoke of the Pellagra Conference held at Corbin last year, where over 100 cases were exhibited.

A delightful dinner was served by Mr. Proctor, after which all the physicians attended the dispensary.

J. H. Souther moved the Warren County Medical Society request the Fiscal Court to appropriate sufficient money for conducting hookworm dispensary in Warren county.

J. H. Blackburn seconded the motion and was appointed chairman of the committee.

The society then adjourned.

L. H. SOUTH, Secretary.

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ORIGINAL ARTICLES

SYMPOSIUM ON PHYLACOGENS

THE USE OF RHEUMATISM PHYLACOGEN IN CHRONIC RHEUMATISM.

By EDW. B. RICHEY, Louisville.

The danger in the use of a remedy such as this is that because of its unusual results in cases that have resisted other treatment; we are likely to become over zealous in our advocacy of its use. In other words its results in one case may be so unexpected and so efficient that we are tempted to adopt it as a cure-all without carefully trying it out.

I am endeavoring, therefore, in this brief paper to hew to the line and let the chips fall where they will. I shall make no statements that are allowed to be exaggerated by my enthusiasm and in every way shall give this remedy its just tribute for its efficiency and yet its just criticism.

Every remedial agent has its hindrances which, when possible to remove them, can show its full efficiency. Every internist has observed that in certain individuals standard remedies at times fail to bring results. I do not expect, therefore, that rheumatism phylacogen will relieve permanently all cases.

Each case is a law unto itself and may for some unknown reason not be relieved by this treatment but if many be relieved of suffering (and few to whom it is administered are not relieved) it is still worth our while to use it.

I have reported before this distinguished society, at a previous date, my first case in

the use of rheumatism phylacogen, so will mention it only as to subsequent observation and treatment.

The case was that of Mrs. H., age 62, weight 200 lbs. Rheumatism 11 or 12 years, for eighteen months helpless, could not walk nor comb her hair, etc. Suffered pain night and day. Treated with rheumatism phylacogen February, 1912. Three doses given subcutaneously. Six doses given intravenously. Severe reaction in all except last two, when slight reaction was present. Patient went home relieved of pain, walking on crutches, could comb her own hair, turn over in bed, get up and down but was weak, muscles were flabby. Sent her home fifth day after completing treatment. Having given her tone during that time and continued this two weeks.

No subsequent trouble until August 15. Pains, slight, appeared in both knees and in one hand. Gave four doses rheumatism phylacogen, first 5 c.c. subcutaneously, three doses of 10 c.c. subcutaneously and she has had no pain since. Has walked without crutches but little because of fear of falling, but gets around on crutches very well. Walks all over her yard and all about the house without assistance.

My mistakes in this case may have been, in not continuing the treatment longer in the beginning. But because of the weakened condition I prefer to use subsequent treatment to too long continued treatment.

I believe the average constitution will only stand a certain amount of intravenous treatment. Patient is satisfied and why should not I be.

CASE II.

Mrs. G., age 66, weight 170, white. Had pain in hip and groin and swelling of foot and knee on left side. Pain gave her no rest at night for six months, could walk, but with a limp and severe pain in hip, knee and groin.

Had suffered for fifteen years but worse in past eighteen months. This case had been diagnosed hip-joint disease, chronic dislocation, fracture of neck of the femur, rheumatism and sciatica. Had been treated by many physicians, Osteopaths, etc., and had been to most of the springs said to cure rheumatism, with no relief.

She said the Osteopath made the condition worse. Our first efforts were in the direction of a proper diagnosis. Hence Dr. Moren was called upon to see if we had a sciatica or ileo-sacral subluxation. The doctor found nothing wrong in this respect. Next Dr. Bruce took an X-ray picture of the hip-joint and the picture showed a deposit of some kind around the head of the bone about a quarter of an inch thick. This we readily saw was the cause of the grinding and gritting sensation which the patient complained of so much. The blood examination showed uric acid present. The urine was loaded with uric acid and other solids.

All this with a history of rheumatism in childhood brought us to the conclusion that it was a case of chronic articular rheumatism, involving the hip, knee and ankle joints and both elbows slightly.

We undertook treatment in this case with the hope of relief from pain, primarily, not expecting that the hip-joint would be relieved of the, what we believed to be, uric acid deposit and hence the gritting sensation. Neither did we expect to relieve the patient of the limp entirely, but we felt, and so did she, that to be free from pain when at rest so she could sleep at night, would be worth all the effort to be put forth.

She was given three subcutaneous doses of 2, 5 and 10 c.c. each followed by six doses intravenously of 2, 5, 7 1-2, 10, 10, 10 each the first time. She was very much prostrated but seemed free from all pain and anxious to go to her home fifty-five miles away, so we treated her with tonics for five days and she returned home. This treatment was from June 8th to 23rd.

After returning home she walked into the garden and chicken lot and superintended a large house and servants, and entertained considerably and the limb began swelling and became very large. I went to see her, had hot packs applied and gave remedies to promote kidney and bowel action and soon the limb returned to almost normal. She began suffering again with pains, at times, in hip and

knee, and was advised to return for further treatment, which she did August 28th.

Eight doses subcutaneously were given over the involved joints, all 10 c.c. save the first dose, all with marked local reaction but only slight constitutional reaction.

Pain was relieved and patient began walking again with a cane, and without pain, was able to get up and sit down without pain, but suffered slight pain when attempting to place one leg across the other or in that direction. This pain was felt in the groin.

The patient wrote me Wednesday, October 2nd, saying she was in good health save for slight pain in groin at times lasting for a few minutes and some little swelling in the foot of the affected limb. She says she sleeps better at night, eats well, enjoys freedom from pain when quiet but cannot walk much without tiring and having some pain.

CASE III.

Woman 45, weight 120. Rheumatism 10 years. All joints involved. Negative history otherwise. Diagnosis, "chronic articular rheumatism;" treatment, six doses of rheumatism phylacogen subcutaneously over affected joints, with pain after third dose gradually disappearing. Patient then refused to take any more of the phylacogen and the doctor refused to give other treatment and has heard nothing from her since. But it did relieve her pain and enabled her to sleep soundly like a babe, something she had not done for months.

I have written and spoken upon Schafer's modified vaccine or rheumatism phylacogen so much before that I have entirely expressed myself as to its logical place among our most effective therapeutic agents. I have also spoken in detail as to the method of administration; but I desire to state a few conclusions in summing up.

I am convinced that the use of rheumatism phylacogen in chronic articular rheumatism is entirely justifiable, that it will in most cases relieve pain, that it will not reduce to any great degree any uric acid deposit or correct an ankylosis but will cause the system, by ridding it of the infecting organism, to cease the production of such pathology and put it in condition to gradually rid itself of these complications.

I have not used this remedy in acute articular rheumatism, but believe it to be more efficient than in such long standing and difficult cases as I here report.

In acute cases of not too long standing I am inclined to think the subcutaneous method preferable on account of the severe reaction resulting from intravenous injections. I believe that in the above cases that if results are still unsatisfactory in every detail that I

shall advise a still further treatment subcutaneously over the affected parts.

Credit must be given the treatment in these severe cases for the relief of pain even if no other good is accomplished for thereby the patient is made comfortable and can enjoy some of life's happiness.

Time does not permit me to deal with the causative factor (bacillus of Poynten and Payne) in rheumatism and the Schafer theory of getting rid of this and its toxins, but I will expect this to be brought out in the discussion.

I believe that any fair minded man would sanction the use of the phylacogen as a remedial agent in rheumatism could he but see the relief afforded his patient. Facts and experience do not lie and we must admit that phylacogen in rheumatism is the most efficient remedy thus far in the hands of the profession.

As to the future of the cases here reported we can only conjecture. This disease may reassert itself but we do not think so, knowing that that which acts in vaccine therapy as a curative agent also has more or less place as an immunizing force.

THE TREATMENT OF ERYSIPELAS WITH PHYLACOGENS.

By W. A. JENKINS, Louisville.

Erysipelas has a well known streptococcal origin, and a striking group of clinical manifestations and on account of these two facts it has always seemed to me that this disease furnished a very typical example for the observation of its response or behavior to vaccines. I wish this evening then to present for your consideration a series of cases, treated according to the above mentioned method. Our trials were carried out in the Louisville City Hospital where the most careful, rigid and accurate observations were kept on the behavior of each case. All cases were watched and tabulated by graduate internes assisted by a competent corps of nurses. We had about eight or ten cases of facial erysipelas, some of them very ugly ones. In treating this disease we tried the phylacogens alone, and in connection with other remedies. Our experience was very gratifying and we certainly obtained some excellent results. The phylacogens were administered subcutaneously only in these cases, beginning with the small dose, say 2 c.c. giving a second dose in eight hours if the reaction is not too severe. If the reaction was too severe we waited until the next day for making the second injection. In most instances we obtained a marked systemic reaction and a noticeable improvement in the case. In our experience we found that it was best to use common sense measures such

as thorough elimination by the use of calomel and salines, and the use of about 50% ichthyl ointment constantly applied in addition to the phylacogens. When we used the phylacogen alone without any local application, while the condition seemed to respond systemically it would spread locally and we would have a second systemic saturation; consequently we used the phylacogen in connection with the above mentioned plan. Our final conclusions as to the routine plan of treatment were as follows: As soon as the patient was admitted to the hospital he or she, was put to bed; broken doses of calomel, or calomel and podophyllin were given followed by a saline, thus securing a thorough cleansing of the alimentary tract. The diet was light but nutritious and chiefly liquid in character. Fifty per cent. ichthyl ointment in lanoline was applied locally to the affected area and kept up *pro. re. nata*. The phylacogen was given subcutaneously 2 c.c. as the first dose. If the reaction was very severe we waited twenty-four hours and then gave two or five c.c., as the previous reaction seemed to indicate. Usually it was 5 c.c. Then the next twenty-four hours 7 c.c., then 10 c.c.. The dose of 10 c.c. was repeated for a day or so if necessary until immunization, that is, cessation of reaction, took place. This is your signal to stop treatment.

In conclusion allow me to say that I am an advocate of the use of vaccines if they are used intelligently and scientifically. I do not care whether it be Schafer's, autogenous, or stock vaccines that are used, I believe that vaccines and *allied products*, such as the phylacogens, for example, have come to stay. I believe that they are proving to be of undoubted clinical value, they will not take the place of any or all drugs, or, in other words, do away with drugs entirely, but they are undoubtedly a valuable addition to our therapeutic armamentarium. They are yet in their infancy and their future may be even greater than I predict. I am attempting to give a conservative view of this subject as we now understand it. The future of vaccine therapy is certainly a positive and perhaps a brilliant one.

MIXED INFECTION PHYLACOGEN.

By E. S. ALLEN, Louisville.

Primeval man, in all probability, possessed a natural immunity to bacteria. The prime cause of germ life was that of scavenger, taking care of the smaller particles of putrefactive matter not destroyed by smaller animal life. As a result of civilization, man has so lowered his vitality and natural resistance as to become a host for the bacteria.

Environment and diet have developed

racial characteristics and specific feeding grounds. Bacteria have become pathogenic. Except in a few instances where a drug has bacteriolytic properties, we can only deal with this microscopic enemy to animal life by assisting the natural forces of the body in building up an immunity. The immunity is that which prevents the gaining of a foothold of disease organisms in the animal body, or which neutralizes their harmful products when they have gained entrance.

Immunity hinges on the resistance of the human body to the aggressive and virulence of the invading organism. It must be borne in mind that immunity is only relative. For instance, any animal, naturally immune to a certain bacteria, can be made to succumb by reducing its resistance by exposure to cold or by starvation.

We believe that all acute and many chronic diseases are caused by the metabolic products of bacteria, and that our therapy must consist, either in fortifying the body against invasion, or assist in the destruction and neutralization of their products after infection.

Dr. Schafer after using single strains of both autogenous and stock vaccines, and making careful cultural study of the excretions and secretions, was able to demonstrate, day by day, bacteria that could not be found in the fluid on first examination, especially in those cases in which the end results clinically were not good. As a result of repeated experiments, he concluded that the animal economy which normally is the host of microorganisms that are pathologically latent, when the resistive properties of the body are lowered become capable of setting up a disease process.

The chemical forces of the blood are turned toward the primary invading and infecting germ, while the other bacteria appear on the battle field as an unforeseen enemy, and that if we would take for granted that the enemy was lurking in the back ground, waiting for advantage, and prepare the forces of the blood, that they too could be arrested in this invasion and fight.

As a result of an attack of disease or in response to the stimulus of the injection of the organism or its products, we have developed in the body so injected, certain specific antagonistic properties to the organism, which are naturally demonstrable in the blood serum or other body fluids. These we term antibodies, opsonins, bacteriolytic products, etc.

Dr. Schafer's argument is most plausible, though in opposition to all late biological theories. Yet clinical results as given by him and many other experimenters bear him out. It means that we are only learning the alphabet of cell chemistry and need considerable enlightenment on the products of bacterial

growth on artificial culture media. It is a question of more chemistry in the laboratory of the physiologist.

We know that when we inject a bacteria or its products into the animal economy, as a result of the activity of the cells of the animal invaded, antibodies are formed which neutralize the toxins or destroy the bacteria. These antibodies are thrown off free receptors capable of combining with and fixing the toxin radical, rendering it inert to fix itself to the body cell, which, if a sufficient number combine with the resident cell, poison it, and death of the cell results.

There has now been demonstrated a product not only antitoxic but anti-microbial, which is not thrown out to all bacteria. The tetanus, diphtheria and pyocyanus are examples. So if antibodies are developed against bacteria that do not liberate an extracellular toxin, and the antibody is antimicrobial we, by disintegration of these bacteria, liberate a secondary poison which necessitates the development of a second antibody, and it is possible that, for instance, in a colon infection of the peritoneal cavity, where nature destroys millions of bacteria, so liberates a new endotoxin in such enormous quantities that before she reinforces her cellular elements they have received their fatal dose. Is this possible with so powerful an antimicrobial agent?

Dr. Schafer is of the belief that all infections are "mixed infections," that except in rare instances there is no such thing as infection by a single species of microorganism; that while one species may predominate, the pathogenic process engendered by it is accelerated and intensified by the complicating presence of other organisms of other species. In other words, that in the course of an infectious disease the symptoms are due not only to the effects of a single species of organism (the specific infection), but to the influence of other organisms whose pathologic role is not significant, but which must be reckoned with in any successful scheme of therapeutics.

Dr. Schafer further believes that the human subject is at all times the host of a great variety of organisms and harbors these pathogenic bacteria without harm to itself during periods of physiological resistance, at or above par, and in the absence of any solution of tissue continuity. When the resistance is below par, or a solution of continuity of tissue occurs, the bacteria harbored by the human host assumes pathological significance.

Furthermore, he contends that certain diseases, as typhoid fever, pneumonia, tuberculosis, erysipelas, rheumatism, and others, are objective symptomatic manifestations of the preponderance in the patient of the toxic and

destructive products of the peculiar species of organisms to which the etiology of the disease is usually ascribed as bacillus typhosus in typhoid fever, bacillus pneumoniae in pneumonia, the bacillus tuberculosis in tuberculosis, etc.; and, in addition, the symptoms are due in part at least to the destructive action of certain materials produced by complicating organisms which are always present in great variety and number.

As an illustration, attention may be directed to the not commonly accepted idea that in pulmonary tuberculosis the greater danger to the patient, much of the difficulty of the treatment, and many of the most notable symptoms, such as loss of weight, high temperature, disturbance of circulation, purulent expectoration, destruction of tissue, etc., are due to the complicating organisms, and if the so-called "mixed infection" can be checked or eliminated efforts may be directed against the bacillus tuberculosis with far greater success than has heretofore been possible in the treatment of this condition.

When bacteriolytic substances are developed in the body we have two factors to consider: First, a substance similar to antitoxic molecule, but which in itself has no power of injuring its specific bacterium. This is known as the amboceptor, or immune body. It is the specific product of the activity of a specific bacterium against the body cells attacked. In itself it is incapable of injuring the bacterium in response to whose attack it was produced. The second factor in the bacteriolysis of the specific bacterium is something normally present in the serum and which is capable of disintegrating the bacterium, provided it can have access to the bacterium through an intermediary amboceptor. This is called the complement. The complement cannot act upon and destroy an invading bacterium unless the amboceptor is present to make the necessary connection.

This apparently could be left unsaid except that it leads to a question in my mind possible; that of complement deviation or deflection.

Dr. Schafer's method of administering the by-products of bacterial growth is in opposition to our views of the negative phase in the opsonic index following the injection of bacteria or their products. Some unknown metabolic chemistry is taking place. Is it not possible in the rapid injection of large doses of bacterial products to generate some inequality in the complement and amboceptor ratio, and thereby paralyze the resistant forces of the blood?

It has been demonstrated that if there is not sufficient immune body or amboceptor in the body serum containing abundant complement that only a portion of the bacteria pres-

ent will be destroyed; that if we can increase the immune body, all of the bacteria will be destroyed and if we continue to increase the immune body out of proportion to the complement, that the destruction of bacteria ceases—and that the bacteria not destroyed grow unmolested.

For instance, if we have an excess of amboceptors for available receptors on the bacterial cells, only a portion of the amboceptors can attach themselves to their specific bacteria. The free amboceptors not being able to form a union with the bacterial cell receptors combine with the complement present. Unless the complement be in excess, there will be no free complement left to join into the amboceptors attached to the bacterial cells and consequently bacteriolysis does not take place.

This in all probability amounts to nothing, but is a theoretical question that occurred to me.

It is certain that our knowledge of the means by which the economy is able to overcome bacterial invasion is limited.

Various substances, as agglutinins, precipitins, stimulins, lysins, and opsonins are each considered to play a part in assisting the white blood cells to destroy bacteria, while Wright has demonstrated a substance in the blood which acts directly on the bacteria leaving them in a helpless state for phagocytic destruction.

When a cell extracts from the plasma chemical nutrient, radicals and oxygen, and by a metabolic process of chemical combination manufactures a new substance, a secretion having a physiological role in the economy, and by a process of katabolism eliminates the refuse of its work, it has performed its physiological function.

But when the toxic radical or bacteria or product combines with the receptor of the cell, the cell either fails to manufacture the secretion necessary to the function of other structures or turns out a pathological secretion of a toxic nature, and the physiological waste is interrupted.

In the bacterial filtrate offered by Dr. Schafer he is supposed to fortify the cell against bacterial invasion; to cause the cell to manufacture enough extra receptors to not only fix and render inert the bacterial toxine, but to manufacture a substance toxic to the bacteria.

Clinical results seem to prove that he has given to the profession a therapeutic agent in bacterial filtrate, a means of fortifying nature against bacterial invasion or immunizing her in case of infection.

It appears to me that in the surgical field, with a gangrenous appendix with the operative site generally infected, if the bacterial filtrate is used hypodermically or rather in-

travenously, that we could materially hasten wound repair, and that in a beginning peritonitis an intravenous injection would abort the inflammatory process.

We, as a rule, know that we have to deal with only three or four different bacterial strains, and to use a filtrate one-half strength of the suspected germ and equal proportion of the other probable varieties.

I have only used the mixed phylacogen in a very few cases, and all of these were in chronic infections of the bladder. The subcutaneous method was used and marked benefit resulted. From statistics on this subject, I believe that if I had used the intravenous method my results would have been satisfactory. There apparently seems to be no danger as the minimum lethal dose for a man weighing 150 pounds is over 800 c.c. and the dose administered is from 1 to 20 c.c.

DISCUSSION.

Earl R. Miller, (Detroit, Mich.): I wish to assure you that I appreciate very much the privilege of hearing these papers this evening. They have presented the subject of phylacogens in a very fair and conservative manner. This preparation is comparatively new to the profession and deserves due credit for what it proves itself to be clinically. We have conducted a great many experiments for the purpose of determining, if possible, what phylacogens are and the manner in which they exert a beneficial effect. We have thus proven certain theories which are far from conclusive, but the value of any medicinal agent is its value when given in a certain condition. You have heard many conditions cited here to-night and you have heard the results. I have seen a great many doses of phylacogen administered in different conditions. However, I have not had the opportunity of following any of these cases to a final termination. Therefore, I am going to refrain from going into a general discussion of these papers. I am happy to have the privilege of being here this evening and of hearing you gentlemen who have had practical experience with phylacogens, discuss the papers. At the conclusion of the discussion, if any of you have questions that you wish to ask regarding dosage, reaction, or anything in connection with the administration of phylacogen, I will be glad to answer those questions to the best of my ability.

M. L. Ravitch: I admire the house of Parke-Davis for its business-like methods; if physicians as a rule were as business-like as they are, we would all have been better off. It appears that the time is coming when we will all have to go out of business; as soon as a disease is diagnosed, an injection of a serum of one kind or another, will be administered and the patient will be cured. From the symposium I have heard to-night it seems to me that very few clinical cases have

been given as a basis of the symposium. I admire the paper of Dr. Allen in particular; it is a classical one. However, he hardly cited any cases treated with phylacogen and the few he did he did not give any results; he says he does not know but he thinks they were benefited.

I also admire the paper of Dr. Jenkins, who cited a few cases of erysipelas that were apparently cured by the use of phylacogen. However, erysipelas is an easy disease to cure. Dr. Jenkins said that he applied a 50 per cent ichthyol solution, and if we do that and give intestinal antiseptics as calomel, these patients will get well without phylacogen. The truth of the matter is that a great many of us do not know our materia medica; we have not studied it and we do not know physiological chemistry. Ask the average physician what he knows about the chemistry of the tissues, and nine times out of ten he will admit that he knows nothing about it. Many wonderful cures of erysipelas by the use of phylacogens, and thousands of cases of acne have been reported as having been cured by means of vaccine, but when you nail these men down to the real facts very few cures, if any, have been really accomplished. At the last meeting of the American Medical Association, a doctor read a paper before the Section on Dermatology, giving a long history of wonderful cases that were supposedly cured, but when he was nailed down it was all imaginary cases.

Gentlemen, I have come to the conclusion that we are too hasty in using sera, and make too hasty conclusions. Since we don't know the chemistry of the toxins of sera, we must be careful in using them. Let us study our materia medica; let us study the physiology of drugs and their influence on the tissues. I really believe no serum should be used until we know its chemical toxin. Vaccine in acne has proved to be a failure. Much of the disease, except when it is of bacterial origin, is due to some reaction, and until we study the cause of the reaction we cannot come to a definite conclusion. In some diseases that are supposedly of bacterial origin, the bacterial element is secondary.

Harry J. Phillips: Dr. Ravitch is perhaps right in some respects. However, you will all recall that a great many doctors were skeptical as to the value of anti-toxin in diphtheria at first, but to-day practically every physician uses it; or, in the few instances where it is not used, we feel that the physician is not quite up-to-date to say the least. As I understand it, phylacogens are along the line of mixed infection vaccines, and this principle has been supported by a large clinical experience, augmented by the experience of Dr. Schafer himself. From the results obtained from this form of treatment there have been deduced these facts: (1) that all acute diseases and nearly all chronic diseases are caused by the metabolic products of bacteria; (2) that the human body is normally the receptacle, or

host, of a great variety of organisms, pathologically latent, but which, under certain conditions, become capable of producing disease, and (3) that the growth of these organisms may be influenced by metabolic products of bacteria grown in artificial media.

The theory has been advanced that there is no such thing as an infection due to a single organism, but that it is due to the action of a great many organisms. "Phylacogen" is a term derived from two Greek words, and translated literally means a "phylaxin producer". Phylaxin is a term that is used to indicate the antibodies found in animals that have acquired an artificial immunity against a given disease. Phylacogen is not a bacterial vaccine in the sense that the latter term is generally understood. Phylacogens are sterilized aqueous solutions of metabolic substances derived from bacteria grown in artificial culture media.

Phylacogens are made from a great many varieties of bacteria—the staphylococcus and streptococcus pyogenes, bacillus typhosis, bacillus coli communis, etc., etc.

Personally I have had experience with two varieties of phylacogen—the mixed infection and the rheumatism phylacogens. I used the former in a case of Pott's disease, one of the most severe cases I have ever seen. This case, however, was not a fair criterion of the value of the phylacogen, because it was a terminal case, and absolutely incurable. This man had necrosis of the vertebra with the formation of considerable pus which found its way along the psoas muscle and opened in the groin. He was having chills and septic sweats, with a high range of temperature. I gave him nine or ten injections of the mixed infection phylacogen, beginning with 5 c.c. and rapidly increasing the dose to 10 c.c. While, of course, this remedy could not cure the man, I am sure that it greatly benefited his condition: he slept better, his temperature remained almost normal, the sweating disappeared, and he was improved in many respects.

The other case was one of rheumatism in an old lady, about 58 years of age, who is, one might say, prematurely aged. She appears to be nearer 78 than 58, judging from her general appearance, heart and arteries. For more than four years she had not been able to get about her room except with the aid of crutches and a cane. Her trouble is chronic articular rheumatism. I began the use of rheumatism phylacogen, giving her an initial dose of 5 c.c. and rapidly increasing it to 10 c.c. The reaction in her case was marked, and I want to say, gentlemen, I have found, in the few cases I have treated, that the more pronounced the reaction, the more decided was the patient's improvement. She had a rise in temperature of three degrees, her pulse was accelerated, and there was considerable prostration attended by profuse sweats, but by the next day she had begun to improve. The pain was not so severe, her

appetite was better, and she showed improvement generally. As the administration of phylacogen was continued, she continued to show improvement. I gave her some fourteen injections, being compelled twice during this period to temporarily discontinue the treatment because of the severe reaction. I think I can say, conscientiously, that if she were twenty years younger and had more determination and will-power, she would be able to get around without the aid of a cane. She gets about the house and into the yard with the help of a cane.

I cite the above cases because of the fact that they came under my personal observation.

I believe there is a future for phylacogens. There are two ways of administration—subcutaneously and intravenously. I have given it both ways. I gave it intravenously by error. I intended at all times to give it subcutaneously, but on one occasion in the effort to do so I accidentally hit a vein. The reaction was most marked and severe in this instance. Possibly the only adverse comment that I could make is that in administering phylacogen intravenously, we should be careful to know the condition of the patient beforehand. We should be on the lookout for arteriosclerosis and various forms of heart lesions, as well as nephritis, because after an intravenous injection the reaction is very marked and depression is great, the patient sometimes becoming purplish with blue lips, with rapid shallow respiration and in a state of collapse, which is apt to frighten the physician as well as the family very much. If given subcutaneously, there is no contraindication to the use of phylacogen, with the possible exception of nephritis. I always begin with 5 c.c. and increase the dose up to where I think the patient is perfectly safe. I would not hesitate to use this remedy in the future in any case that I think needs it.

C. G. Forsee: I have had experience with phylacogen treatment in two cases. One of these was a young man, about 24 years of age, with an arthritis and almost complete ankylosis of the arm, being able to move it only about five degrees. He came here from Illinois for relief from the pain. He said he did not care so much about the function of the arm as he did to get rid of the intense pain. I began with 10 c.c. subcutaneously—a rather larger dose than is usual. This was followed by a reaction with a temperature of 104.1-2. I had him in the infirmary where he could be watched. After this reaction had subsided he developed a very marked urethritis. He had no discharge when he came into the infirmary. I gave this man ten injections, the last dose being 20 c.c., all subcutaneously. After the first dose the fever reaction was comparatively mild. He was comparatively free from pain after the initial administration and remained so until about a month ago, when I received a letter from him saying that the pain had returned, and de-

siring to know if some one in his town could not give him the same form of treatment.

Another case was in a man whose age I do not know, but he was old enough to be a grandfather. He gave a history of gonorrhea contracted five years ago, for which he had undergone treatment in Cincinnati for a period of five months. He thought he was cured of the gonorrhea and came to me for treatment for rheumatism. I began the use of phylacogen, giving him a ten c.c. dose, which was followed by a chill and fever reaction. I gave him a dose of 10 c.c. every day until the last, when I gave him 20 c.c. A good deal of pain attended these injections. It requires some little nerve on the part of the patient to stand for putting 10 c.c. of medicine under his skin every day, but this man had nerve, and said go ahead and I did.

The most striking feature about these cases was the fact that in each case the patient developed a urethritis, and each of them had a return of the gonorrhea. The older man had no appetite, had lost some weight, and thought he was going into a decline.

Another very striking feature about both of these cases was the marked sweating. Both of them sweated a great deal, and there was an increased flow of urine in both cases, more marked in the older man. I did not measure the quantity, but he told me that it was far above the normal amount of urine. The older man left for a six-weeks trip on the road immediately after receiving the treatment, and when he came to see me again he had gained 14 pounds. He said he had never eaten heartier in his life than he did while on this trip, and he was entirely free from pain. While he said that the treatment was about as severe as could be administered, he was very much pleased with the results, and I was also.

Herbert Bronner: Some time ago when Dr. Larned came to this city in connection with phylacogens (although I do not think they had been given that name at that time), I asked him what was the content of this remedy, and he frankly told me that neither he nor Dr. Schafer knew. On purely theoretical grounds, I objected to using a remedy the composition of which I did not know. However, I did use it in some experimental work at the City Hospital although, as stated, at that time it was not known just what phylacogens were, and the manufacturers were, therefore, unable to standardize the remedy. I would like for Dr. Miller to tell us whether it has since been ascertained just what phylacogens are, and whether any attempt has been made to standardize the remedy.

Irvin Abell: Most of those who have discussed this subject have confined their remarks to the use of phylacogens in purely medical conditions. I would like to add a report of three cases of surgical conditions in which phylacogens were used.

The first was a case of tuberculous peritonitis,

with a temperature of 103, and pulse 120, upon whom abdominal section was done, the fluid evacuated from the cavity and the wound closed. Subsequently the patient was given a mixed infection phylacogen until the fever disappeared, followed by the administration of tuberculosis phylacogen, or vaccine as it was called at that time. The patient made a complete recovery with a gain in weight of 25 pounds in the course of six weeks and returned to work without temperature. In the course of two months I have had no further report from him. So far as the effect of the phylacogen is concerned, this case may possibly be disregarded, inasmuch as the ordinary routine surgical measures were carried out.

In each of the other two cases, if the result obtained was not due to the use of phylacogen, it was, to say the least, a very happy coincidence. One of these was a man who had a cystitis apparently without cause. By this I mean that the condition was not of tuberculous origin, since Dr. Allen was kind enough to examine the urine carefully and repeatedly in search of tubercle bacilli, with a negative result. This patient had an ascending infection from the bladder, involving the pelves of both kidneys. An abscess developed in the left kidney, which was opened and drained. Examination of the urine showed colon bacilli, staphylococci, streptococci, and other bacteria which I do not now remember. He was placed upon the mixed vaccine of Schafer and under this treatment alone he made a perfect recovery. The urine became free from pus, the fever disappeared, and he returned to work as the proprietor of a grocery.

The third case is still more striking. I had in the Infirmary at the same time two parotid infections following operation. One had a ruptured appendix with general peritonitis. In this case the Schafer vaccine was not used and the case went on to suppuration with a temperature of 103. Suspension of the uterus was made with no infection, the wound healing by first intention. On the second day following the operation the patient developed a temperature of 103, with marked swelling of parotid extending up to the eye, which was partially closed, and down the neck as far as the clavicle. This patient was given no treatment other than three doses of Schafer vaccine. Following the first dose the pain subsided; after the second dose the swelling subsided, and 36 hours following the third dose all the oedema had disappeared, leaving a very slight enlargement of the parotid which gradually subsided without further treatment.

In closing, I would like to commend Dr. Ravitch to a more careful study of Dr. Allen's paper, since he dealt purely and simply with the physiological and pathological chemistry of the cells.

J. A. O. Brennan: While it is true that we do not know much about phylacogens, still I believe that if they do not do any more than relieve the

pain, their administration is worth while. The results I obtained recently in two cases of epididymo-orchitis were perfectly marvelous. One of these was a man who came to my office with a most horrible condition, accompanied by terrific pain. I gave him ten c.c. of phylacogen and sent him home.

When he came back to my office the next day while the swelling was still very bad, it was not quite so marked as on the previous day and the pain had disappeared. Even pressure would elicit but very little pain. The same was true in the other case, so I believe that if we do nothing else in these cases by the use of phylacogen except to relieve the pain, we have accomplished a whole lot.

J. Rowan Morrison: As has been stated, this subject is still in its infancy. I have been very skeptical, but I have prayed for faith and I think I am gaining some little faith, gradually. I have investigated the subject, having gone very thoroughly over the literature pertaining to it in the Transactions of the Congress of Physicians and Surgeons two years ago, and the opinions expressed at this Congress certainly did vary. Some men got results and some did not. One thing that has impressed me in talking to men who ought to know something about it, is that the men who are skilled in the science of bacteriology do not, as a rule, place so much credence in the benefits to be derived from the various forms of vaccines, as do the men who do not understand bacteriology and serology thoroughly. That the phylacogens, or vaccines, accomplish a great deal of good in many instances, there is no question. In chronic infections, where the condition has become wall-off, such as chronic gonorrhea, for example, there is no doubt that the administration of vaccines does a great deal of good, but in acute infections, where there is plenty of free material to create all the antibodies that are necessary, why should it be necessary to inject something to increase the production of antibodies?

There are a lot of different theories about the action of vaccines, but they all come back to Ehrlich's side-chain theory which, while no one has been able to disprove it, is only an assumption, and makes a nice hypothesis to work upon.

Virgil E. Simpson: I too, perhaps, have been doing more praying along this line than in most other lines in which I have engaged. I have used these agents in several cases at the earnest solicitation of the local representative of the firm that manufactures it. In one case of tuberculosis in which I administered eight doses, the patient died within four weeks after the administration was discontinued. In justice to the agent, however, it should be said that this case was practically hopeless when treatment was begun. I used it in another case of tuberculosis in which seven doses were administered with no improvement in the lung condition that was discernible upon physical examination.

I have used the agent in only one case of rheumatism, in which there was a mitral regurgitation, with absolutely no improvement. I have used it in two cases of erysipelas. One case (which is the only one I will refer to) was of the facial type, and was one of the worst cases that has ever come under my observation. Both the upper and lower eye-lids were involved, the oedema being so extensive that the eye was completely closed. Necrosis occurred, with considerable sloughing of both the upper and lower lids. In this case no treatment other than the phylacogen was used, and the result was—to be modest—satisfactory. The temperature subsided promptly and the local manifestations disappeared much more quickly than in any case of erysipelas I have observed. I administered the agent intramuscularly (which I believe is preferable to subcutaneous injection), in the abdomen in each case.

The patient I referred to was a man, 55 years of age, who, as I learned after having been in attendance upon him for twenty-four hours, was a morphine habitue. His wife stated that he had been using morphine for twenty years to her knowledge, and she could not say how much longer. He was in very poor physical condition, but despite these facts, the result was, as I stated, satisfactory. On the eighth day following his recovery from the erysipelatos condition, so far as the local condition was concerned, he had a recurrence, beginning on the left arm. If I had used the vaccine intramuscularly or subcutaneously in that locality, I would have been disposed to doubt my own technique. However, as stated, the injections had been made in the abdomen, while the recurrence began in the left arm. Within eight hours the nose became involved, and in four hours more the right eye became involved, with marked oedema. The right shoulder over the deltoid also became infected. I began the administration of phylacogen as soon as I was called, which was within six hours after he had noticed the first manifestations of the recurrence. He was given full doses at eight hour intervals, with absolutely no response, and his recovery from the recurrence was that which is characteristic of most cases of erysipelas—comparatively slow.

My conclusions in that case were, that while the response in the first attack was truly gratifying, the agent did not seem to increase the patient's powers of resistance sufficiently to prevent a recurrence, and that the administration of the agent in the second attack was apparently of no value whatever.

F. T. Fort: I do not believe I can add anything to what has been said; in fact, I believe I know more about phylacogens now than I did when I came here to-night. I had not been very favorably impressed with phylacogens, probably because I had given them little or no study. I used the anti-streptococcal serum in a number of cases several years ago, and did not get results,

so I went back to whiskey and strychnin and continued to get results from that. I used phylacogen in two or three cases of chronic acne last year, and I believe I got good results. Knowing the men who have reported cases here to-night as well as I do, if I have any cases in the future in which I believe phylacogens are indicated, I will not hesitate to use them.

E. S. Allen: I believe that, in the use of vaccines or phylacogens, the end results depend very largely upon a correct diagnosis of the condition present. Demonstrate the causative agent and give phylacogen accordingly, allowing the greater proportion of the filtrate to be from the bacteria that is the causative factor.

I do not think there is any doubt that we get marked results from the administration of this bacterial filtrate, although just what the chemical nature of this by-product, or excretory product, of the culture media is, has not yet been demonstrated.

Dr. Morrison stated that he could hardly see how vaccines could do much good in acute infections, where one would think the bacteria already present would stimulate the production of antibodies sufficiently to bring about immunity, but we must take into consideration that in an acute infection, where virulent bacteria are present in great numbers, we must have enough bacteria destroyed to stimulate nature to resistance, and that when we inject dead bacteria, the cells are made to deal with the endotoxin of the bacteria and nature is stimulated by artificial means, where previously too few bacteria were killed to accomplish this result.

I would like to relate a little coincidence in a case in which I used rheumatism phylacogen with very gratifying results. The patient was a married woman whose youngest child was twenty-two years of age. About two years after the birth of this child she was operated upon for extrauterine pregnancy, the tube and ovary on that side being removed. She had not been pregnant since that time. Two months after the administration of phylacogen she became pregnant, and last week was delivered of a healthy baby.

Edw. B. Richey: I have enjoyed the discussion very much. I agree with one of the gentlemen who made the statement that the number of cases that has been treated with phylacogens in this city is too small to be regarded as positive proof of the efficiency of this remedy, but when we take into consideration the statistics of *mca* from all over the country, we find that the balance is in favor of phylacogens as a very good remedial agent. Therefore, it seems to me that we are justified in proceeding further in our efforts to find out just what the agent is, and if it is found to relieve certain conditions which we are unable to relieve by other means, then we are certainly justified in using it. I think we are sometimes ultra-conservative with respect to new remedial agents, often with detriment to our-

selves and our patients. So far as a knowledge of the exact composition of a remedy is concerned, I think the greatest consideration is whether or not we get results from it. If we can relieve pain and satisfy our patient, it seems to me that is one of the most important points to consider.

Earl R. Miller, (Detroit, Mich.): Dr. Bronner has asked a very hard question. When we first began to work with phylacogens, we also endeavored, by experimental work on animals, as well as by all other known methods, to determine how phylacogens produced the beneficial results which follow their proper administration. We have had a number of trained bacteriologists and research men at work upon the problem continually, but so far we have been unable to determine what the exact mode of action is. It is presumed by a number of observers that phylacogens may contain a metabolic product entirely different from any of those which have formerly been recognized; that in the early growth of bacteria there is a substance discharged or excreted that we do not get in a growth of greater age; that is to say, during the early growth of bacteria a substance is excreted that is not found in the filtrate after a culture has been allowed to grow a greater length of time. It is possibly true that this same substance is found in bacteria from which bacterial vaccines may be in an embryonic stage or form, perhaps not completely developed chemically, and that after the normal functions of the bacteria has been completed by excreting this substance it may prove to be a different form to that which we find it in the cell (bacterium).

Phylacogens are standardized by having the various organisms used in their preparation present in the material before filtrating in approximately equal proportions.

Hugh N. Leavell: I would like to ask Dr. Miller if there are any contraindications to the use of phylacogens, and, if so, what they are?

Earl R. Miller: We do not recognize any condition as a distinct contraindication to the use of phylacogens. However, we warn physicians against the use of phylacogens in terminal cases, where the thread of life is very slender, and where the shock from even a subcutaneous injection of normal salt solution, or possibly the puncture by the needle, may cause a fatal termination. While we do not recognize arteriosclerosis or a condition of extreme anemia as being distinct contraindications to the use of subcutaneous phylacogens, still we give them the benefit of the doubt and advise that such patients be not injected with phylacogens. We have had a great many reports of death from the administration of antitoxin; for instance, that a patient was injected with a certain dose of antitoxin and in so many minutes he was dead. We have no positive evidence that the administration of the agent was the actual cause of death of that individual. I remember very well a man telling me of his early experience with diphtheritic antitoxin. He said

he was called in consultation in a case in which there was some question as to whether antitoxin should be used. He recommended that it be given while the man with whom he was in consultation objected to its administration, and while they were arguing the question the little patient arose from the couch on which he was lying and started towards the open door for air. He stood at the door with his hand on the knob for a moment and then dropped dead. Now, if they had administered antitoxin five minutes previous to this fatal termination, the family, the physician and all concerned would have been certain that the antitoxin had caused the death of the patient. We have had a few cases in which death has occurred following the administration of one or more doses of phylacogens. In most of those cases post-mortems were held and in every instance it was found that death had been caused by other conditions present and not by the administration of phylacogen. In two cases death was due to a malignant heart, and competent men who performed the post-mortems testified that death could in no way be attributed to the administration of phylacogen.

There is a tendency among some of our medical men to be alarmed by the reaction. We have learned to disregard the reaction entirely. I was in Kansas City during a meningitis epidemic there a few months ago, and witnessed the administration of phylacogen to patients who were suffering from chronic meningitis, in which there was a rise in the temperature to 107, with a pulse that could not be counted, and yet those patients, within six hours, returned to their former range of temperature, 100 to 101, with a pulse of from 110 to 120. The dose was repeated the next day with a similar reaction, and yet the quality of the pulse returned to the same volume, which convinced every one that the administration did not in any way effect the volume nor quality of that pulse.

We have something like 2,800 case reports filed in our department at Detroit, which represent a good many thousand injections, and after a close study of these cases we have failed to observe a single case in which it can be definitely stated that the injection injured the patient in any way. In every case the patient recovered entirely within a very short time and the administration did not affect adversely the usual heart complications that we find in connection with rheumatism; in fact, a number of men to whom I have talked claim that the cardiac symptoms rapidly disappear after removing the source of the infection—the rheumatic condition.

F. C. Askenstedt: I would like to ask Dr. Miller whether any attempt has been made to produce phylacogens from the bacteria from which antitoxins are made, such as the diphtheria bacillus, or the tetanus bacillus?

Earl R. Miller: Yes, sir. Dr. Schafer claims to have treated a few cases of diphtheria with

phylacogen, with somewhat more prompt results than are usually observed following the administration of antitoxin. We have conducted no experiments ourselves. Our conclusions are based absolutely upon the experience of men who have tested these agents independently of Dr. Schafer. Not that we disregard the experience of Dr. Schafer, but in order that the character of our case reports may be absolutely above reproach the experiments have been conducted by men of heavy hospital and general practice. The reason we have not carried out clinical experiments with a diphtheria phylacogen is that we do not feel that any physician would be justified at this time in administering a phylacogen when he has an efficient agent in the antitoxin. In the present day a man is almost criminally negligent if he does not administer antitoxin immediately upon making a diagnosis of diphtheria, and I will ask whether any of you would feel justified in experimenting with phylacogen or any other agent, after making a diagnosis of diphtheria, when you have an efficient specific at hand? For this reason I think we would have considerable difficulty in making a clinical test of a diphtheria phylacogen.

V. E. Simpson: Where do you get the bacteria for the manufacture of phylacogens?

Earl R. Miller: During the past eighteen months we have had cultures from practically every large medical center in the country. These cultures are first grown separately and then collectively, in order that the phylacogen may contain as many varieties as possible.

Edward Speidel: Which method of administration, subcutaneous or intramuscularly, is the preferable one?

Earl R. Miller: The subcutaneous is the simpler method and the one which seems to have been used by the greater number of physicians up to the present time, although we find a certain number of cases that will not respond to the subcutaneous injection that will respond to the intravenous administration. Our attention has been directed to this in a number of instances. In one case of gonorrheal arthritis, the patient was given a number of doses of gonorrheal phylacogen, the dose being increased from 5 to 10, 15, and even 20 c.c. with little or no benefit. The patient was then started on small doses intravenously, with marked reaction and prompt improvement after the first dose. We now find that a number of men who have been using phylacogens for more than a year, during the first few months gave it subcutaneously but are now using the intravenous method exclusively.

Some cases will have a more marked local reaction than others. Why this is we do not know. Some patients are peculiarly sensitive and manifest considerable local reaction to any injection. I think it is safe to say that in such patients small intravenous injections are to be recommended.

Intravenous injection should be started with a very small dose (not over $\frac{1}{2}$ c.c.), gradually increasing it until a dose of 5 or 6 c.c. is reached. We think that it is seldom necessary to give more than 5 or 6 c.c. in the vein. You will find some cases in which, when administered subcutaneously, the phylacogen will not produce the desired result, presumably because not sufficient phylacogen gets into the circulation at one time to produce the effect. In such cases intravenous injection will usually secure prompt results.

J. W. Heim: Do you get better results in those cases in which the reaction is most marked?

Earl R. Miller: Not always. Early in our experience with phylacogens it was thought that the degree of improvement was in direct proportion to the amount of reaction that followed each dose, but we have found that this is not always true. Frequently the patient will show marked improvement from the very first dose, with a mild reaction after each injection. Again, some cases will have violent reactions and yet improve slowly. Some cases that require fifteen or twenty injections, and finally recover, will have a most violent reaction following each dose.

When to stop the treatment is a question of considerable importance. Some patients are apparently symptomatically cured after four or five doses, and yet if the treatment be stopped they will suffer a relapse. Some of these patients will not have a relapse, but a certain percentage of them will, which means that those patients should have had more phylacogen. Ordinarily, if they do have a relapse, a few additional doses will relieve them entirely. Just when to stop the injections is a question we have not been able to decide. It will be largely a matter for the good judgment of the physician, based upon the general condition of his patient, and even if the patient is apparently symptomatically cured, and then relapses, the indication is to at once resume the treatment and continue it until all the symptoms of the condition have disappeared.

CLINICAL CASES.

NEOSALVARSAN.

(WITH REPORT OF CASES.)

By GEO. H. DAY, Louisville.

Neosalvarsan is a true derivative of salvarsan. According to Ehrlich, it is a condensation product of formaldehyde, sulphoxylate of sodium and salvarsan. The peculiarity of this salt is the paring with the chlora-hydrates of various bases, which was already known. Ehrlich noted years ago that in his chemical investigations of formaldehyde sulphoxylate readily soluble products were formed. As salvarsan contains two amido groups, one or two residues of the salt may appear, according to the method pursued in

the experiment. Neosalvarsan represents the mono product.

About a year ago he resumed these studies, his object being to produce a readily soluble and neutral reacting derivative of salvarsan. His attention was called to formaldehyde sulphoxylate because this combination stops the auto-oxidation of alkaline salvarsan solution for a certain period of time. To that end Ehrlich studied more closely the relation of sulphoxylate to salvarsan, and found that by combining these, a readily soluble neutral solution could be obtained, which, in the animal experimentation, exerted a considerably more powerful action than did salvarsan by itself. In short, neosalvarsan is a derivative of salvarsan, obtained by the action of formaldehyde sulphoxylate on dioxidiamidoarsenolensene.

Ehrlich's idea in attempting to get a neutral solution was to avoid the series of grave reactions sometimes resulting from the strong alkaline salvarsan solution. The fact that in the use of neosalvarsan sodium hydroxide is unnecessary, is an advantage that cannot be overestimated, for the fact remains that caustic soda of the shops was to blame for most of the imperfections noted by surgeons in the preparation of salvarsan, as only a small percentage of caustic soda is really caustic soda C. P. This drug is badly adulterated, and many times we have found that potash, lye, ammonia, and even methylalcohol are substituted for caustic soda. His object at all times was to get a product that, with the simple addition of sterile distilled water, would give a neutral reaction and therapeutically the good results of salvarsan. To this end neosalvarsan was born.

The preparation of the new solution, unlike the complicated method which the preparation of salvarsan demands, proved to be extraordinarily simple. The dry powder is so readily soluble in water that to effect its complete solution, all that is necessary is to sprinkle the amount that is required on the surface of the water. It then requires very little shaking, to say nothing of the mechanical devices, in order to produce a perfectly clear solution ready for use.

Ehrlich advised the solution to be given intramuscularly, and the first several thousand injections were given that way. In Schreiber's Clinic, where most of the experiments were carried out, they were administered in this manner. Some pain was noticed following the injections; and from the pain, the resulting reactions in comparison with salvarsan were nil. Then the intravenous injections were given for the next several hundred cases, the object being, of course, to ascertain which method was best and from which we could expect the best results.

In my experiments with neosalvarsan I have used salvarsan intravenously, and on the whole my results with it were uniformly good. With salvarsan at times the reaction at the site of the injection was very severe, due, of course, to the strong alkaline solution. At times we would also have dizziness, nausea, vomiting, pain in stomach and bowel, which made the employment of salvarsan a major operation, and the necessity of confining the patient for twenty-four or forty-eight hours to the hospital or to a hotel with a trained nurse in attendance.

The size of the dose to be selected, the number of injections to be given, and the length of the intervals between the injections, of course depends entirely upon the state of the disease, the constitution, sex and age, of the patient. As a rule, however, the quantity of neosalvarsan to be used may correspond to the dose of salvarsan which one would use in the same circumstance. The average single dose of neosalvarsan are, for men 0.6-0.9 grams; for women 0.45-0.75 grams; and for children according to the age, from 0.15-0.3 grams. The ampoules are marketed in six sizes, numbered Dose 1 to Dose 6, containing in Dose 1 0.15 grams to Dose 6 containing 0.9 grams. It must be borne in mind, according to its chemical composition, neosalvarsan contains only 66% salvarsan; hence the calculation should always be on the basis of salvarsan when the amount of neosalvarsan is being reckoned. For instance, 1.5 grams neosalvarsan is equal to 1.0 gram salvarsan, and so on. With the idea in mind that large doses were better than small doses, it was the custom of Schreiber's Clinic to inject four doses of 1.5 grams each serially on alternating days, provided the patient was strong enough. Even with these very large doses no serious complications were noticed aside from the frequent medicinal rashes. Since the original experiments, however, it has been shown that treatment should be carried out with smaller doses. Ehrlich now recommends 0.6 grams to 0.75 for men and 0.45 grams to 0.6 grams for women.

Owing to the fact that Ehrlich advised neosalvarsan to be given intramuscularly, and to the fact that painless intramuscular injections could be given in routine office practice, I selected this method for my experiments. As neosalvarsan rapidly dissolves in distilled water and gives a perfectly neutral reaction, as neosalvarsan is better tolerated and can therefore be employed in larger doses, as neosalvarsan's efficiency is at least equal to that of salvarsan, as neosalvarsan is perfectly suitable for intramuscular injections, I selected a series of nine cases for the experiment.

My technique for the injection was to dis-

solve the neosalvarsan in 8 c.c. of cold sterile freshly distilled water. Using a Luer glass syringe and a 1 1-3 inch needle, I injected deeply into the buttocks, two on each side, or four injections of 2 c.c. each, all very deeply into the muscles, the site being the one usually selected in the mercurial injections.

For the intramuscular injection of neosalvarsan, Ehrlich advises using a solution approximately 5% or 0.15 grams neosalvarsan to 3 c.c. distilled water. He also advises injecting beforehand 5c.c. of a 1/2% novocain solution to diminish sensibility. In none of my cases did I use a local anesthetic, and some of the pain naturally resulting would be from its absence. I desired to see exactly the amount of pain caused by the neosalvarsan without a local anesthetic.

CASE I.

Mr. N.; age 40; infected fifteen years ago; intermittent and inefficient treatment, indefinite primary symptoms; denies secondaries; Wasserman positive; first seen eight years ago; one year treatment; protiodide and salicylate injections; refused further treatment; three years ago ptosis right lid; aphasia; no alcoholic history; examination revealed chronic bursitis with infusion, right elbow, right knee; treated for one year; refused further treatment; salicylate injections and iodides; three months ago was seen again; ptosis almost complete, together with a number of cerebral symptoms; reflexes almost absent; again put on salicylate injections and kalium iodide, thirty drops t. i. d. and neosalvarsan given; salicylates every sixth day to tolerance; September 28 neosalvarsan given 0.9 grams, giving two injections each side of the buttocks, or four injections in all, each 2 c.c.; complained of no pain following injection except heaviness in the region, which continued for one hour; on September 30 complained of complete deafness in the right ear, which passed away in three days; respiration, temperature, pulse, continuing normal throughout; no other reaction noted.

CASE II.

Mr. W.; age 29; infected fifteen years ago; primaries and secondaries indefinite; irregular treatment two years by country physician; first seen one year ago; regular treatment for nine months; Wasserman positive; salicylate injections and iodide; was lost sight of for three months on account of changing positions and being out of the city, during which time he was without treatment; physical examination at this time revealed emaciated man, medium height, very nervous, can't sleep at night; head and chest negative; aside from severe nocturnal headaches his condition was altogether satisfactory; advised neosalvarsan

and on September 30 given 0.9 grams, following the regular technique of four injections. This was immediately followed by great pain, which continued for one-half hour before the patient could leave my office; at one time I thought I would be compelled to control his pain with morphia. This pain, he reported later, continued throughout three days; other reactions negative; temperature, pulse, respiration, normal; no rash.

CASE III.

Mrs. S.; married; age 34; infected by husband six months ago; neurasthenic; mouth and throat mass of ulcers; secondary eruption; faded; had salicylate injections, which were badly tolerated; June 17 salvarsan given intravenously, followed by terrific reaction, pain in the arm, dizziness, diarrhea, and pain in bowel which continued for some seven or eight days; small doses salicylates continued weekly, and September 18 neosalvarsan given without local anesthetic; she complained of no pain following injection at any time; temperature, pulse, respiration, normal; local examination negative.

CASE IV.

Mr. D.; age 19; infected June, 1912; typical initial lesion; seen July 18, 1912; secondaries appeared promptly; treponema pallidum demonstrated; Wasserman positive; salvarsan intravenously August 16; very slight reaction; no pain at site of injection; weekly injections of salicylates; neosalvarsan 0.6 grams September 16; slight pain, which continued for two hours; no other symptoms; temperature, pulse, respiration, normal; local examination at present negative.

CASE V.

T. J.; age 22; white; infected one and a half years ago; denies secondaries, except slight eruption on limbs two or three months later and mucous patches in the mouth; treatment begun two weeks after lesion appeared; protiodides; also inunctions; continued this treatment one and one-half months, then changed doctors and received injections of salicylates, having in all four injections; then came to City Hospital two weeks later; examination revealed two enormous condyloma 4 inches long, 2 inches wide, on each buttocks; ten smaller ulcers distributed over the body; neosalvarsan given September 20; complained of some pain following the injection, which lasted for ten hours, after which was very comfortable; temperature, pulse, respiration, normal throughout; discharged four days later or September 24; ulcers and condyloma completely healed; refused further treatment.

CASE VI.

A. S.; female; colored; age 20; infected January, 1911; positive primary and secondaries; treated City Hospital during the month of May with salicylate injections; greatly improved but refused further treatment; left hospital in June; readmitted June 26, 1912. This patient was greatly emaciated; in fact, so much so was confined to bed; she had lost some 60 pounds in weight; very nervous, with a history of using morphine over an extended period; she suffered apparently at all times; had a great deal of pain; she could not be moved by the nurse without great pain, for which it was difficult to account; she had a severe and constant diarrhea, extending over some months; enormous condyloma; vulva and rectum; together with her emaciated condition, made the prognosis rather grave. Neosalvarsan given 0.2 grams September 17; temperature in four hours 101, pulse 110, respiration 24; complained of pain on the left side, cold feet, pain in the abdomen; following day temperature pulse and respiration, normal; September 27, 0.3 grams neosalvarsan given followed by normal temperature, pulse, and respiration; no pain; on October 4 neosalvarsan given .03 grams, followed by normal temperature, pulse, and respiration; she complained of limbs being cold, very little pain; her condition as a whole quite satisfactory; on account of her general condition, don't hope for much; diarrhea has shown very little response to treatment; general condition very little improved; says she feels a great deal better; condyloma practically all disappeared. In spite of her hyper-sensitive condition, neosalvarsan was borne by this patient remarkably well; suffering very little, if any, pain, no change in the temperature, pulse, or respiration, after the first injection.

CASE VII.

M. R.; female; age 23; white; admitted September 13, 1912; noticed eruption on body last May; received internal treatment for syphilis then; physical examination disclosed general adenitis; mouth and throat badly ulcerated; numerous condyloma vagina and rectum; September 16, intravenous injection salvarsan followed by slight reaction with quite severe pain in the back, legs, and arms, which continued for three days; September 27, neosalvarsan 0.6 grams given intramuscularly, followed by quite severe pain in the back and legs, which continued five hours; temperature, pulse, respiration, normal; October 4, neosalvarsan repeated 0.6 grams; three hours after injection, temperature 100, pulse 108, respiration 22; complains entire body aching; severe pains in the back; restless, and chilly sensations, which continue for

twelve hours; her physical condition now is negative; physical examination reveals that the condyloma had disappeared, and the patient is very gratified with her condition.

CASE VIII.

S. B.; white; female; age 55; family and personal history indefinite; no history of lues; doesn't remember primary or secondary lesions; admitted February 11, 1912; two months before admittance noticed ulcer on the gum, which spread until ulcer covered roof of mouth; complained of pain in eating, loss of flesh; previous treatment had been local; so far as could be learned, she had had no previous mercurial treatment. Examination disclosed deep ulcerating gumma of the hard palate; bones not necrosed; no perforation; glands generally enlarged; very tender and ulcerated; pupils negative; reflexes negative; September 27, neosalvarsan 0.9 grams injected, followed by quite severe pain in lower limbs, restlessness, which continued eight hours. Complained severely of the localized pains in the ulcer of the mouth (said she felt as if something was pulling on it); temperature 99; pulse 80; respiration 20; for twelve hours; on account of pain refused subsequent injections.

CASE IX.

J. S.; colored; female; age 25; admitted September 19, 1912; confessed infection three years ago; no treatment; subsequent history and treatment indefinite; local examination disclosed general adenitis; six or more condyloma, one of which extends over the entire labia on both sides, including the rectum; mucous patches; mouth and throat foul with ulcers; September 28 neosalvarsan 0.6 grams; complained of no pain or tenderness following injection; slept well; temperature 99, pulse 110, respiration 26; following day, temperature 101, pulse 106, respiration 28; October 4, neosalvarsan repeated 0.9 grams; no pain; sleeps well; temperature 101, pulse 100, respiration 24. This case has shown great improvement; the condylomatous condition is greatly improved; stomatitis; complained of no pain whatsoever following the several injections.

Thus we have, of the series of nine cases, seven complaining of little or no pain and two complaining severely of the pain. In my opinion, the pain is caused more by the traumatism due to the amount of fluid injected, than to the drug itself. I believe, if it were possible to give the full dose of neosalvarsan in 1 c.c. of water, that there would be very little, if any, pain resulting. Ehrlich has advised that the drug be given in 20 c.c. water and Schreiber carried out this technique in his clinic, giving it up, however, on account of

the severe pain. I found that neosalvarsan dissolved very readily in 8 c.c. of water, and believe that, allowing a little more time for the drug to go into solution, it would readily dissolve itself in 3 or 4 c.c. It is my purpose in the future to use 3 or 4 c.c. of water with a few drops of a 1% solution of beta ucaïne, thereby making four injections of not over 1 c.c. each.

Ehrlich has declared on innumerable occasions that salvarsan is essentially an intramuscular injection, and only because of the pain involved in the intramuscular injection of salvarsan, he was compelled to advise the intravenous method. He was convinced that the results attained from the intravenous injection are not as lasting as the intramuscular, and he hoped that it would be only a question of time until a painless method could be devised. Therefore he now believes neosalvarsan is a step in this direction, its use having the smallest amount of reaction, followed by the enormous therapeutic value of the intramuscular method.

Wollbarst has used glycerine as a base, injected in 4 c.c. doses, but found this suspension very painful. Iodipin in 10 c.c. doses has also been advised and it is said it is very well tolerated. Nearly all of the investigators have used neosalvarsan with a 1% beta ucaïne solution.

The fact still remains that we may still expect the best results from the intramuscular injection; that its effects are far more lasting than the intravenous; that we cannot expect to gain a good technique without a series of fifty or more cases; and at present the results are indeed very satisfactory, giving us neosalvarsan, that can be used in the office by a physician inexperienced in its use with very little danger and with very little discomfort to the patient.

CONCLUSIONS AS TO NEOSALVARSAN.

1. Compared with salvarsan, results are at least as striking.
2. Larger doses can be given.
3. The reactions are practically absent.
4. The neutral reaction of the solution makes unnecessary surgical technique in entering the vein and obviates the use of sodium hydroxide.
5. A solution of 4 c.c. distilled water with a few drops of 1% beta ucaïne, should be a painless injection.

I desire to express my thanks at this time to Drs. W. B. White and E. W. Northcutt of my service, for their hearty cooperation and assistance.

DISCUSSION.

H. J. Farbach: I have used neosalvarsan in five cases and it has not been my experience that it can be given in larger doses than salvarsan; in fact, on the contrary, I have given it in smaller doses from the very beginning because of the statement of Ehrlich that it is more active than salvarsan, and even in diminished doses, I have seen more arsenical symptoms produced by neosalvarsan than by salvarsan. I give doses of at least one-fourth less than I give of salvarsan.

As to solubility, I will say that a dose of 0.1 gm. of neosalvarsan (representing 0.6 gm. of salvarsan) is readily soluble in 1 c.c. of water, but the reason I have not used it in such concentrated solution is that I feared the reaction would be so great as to cause an encapsulation. In a few cases I have given the neosalvarsan intravenously, and here, as well as when given intramuscularly, I have seen more evidence of arsenical intoxication than I have from salvarsan.

In regard to pain, the first few doses I gave were intramuscularly. Following the suggestion of Wolbast, I suspended the dose of neosalvarsan in 4 c.c. of glycerine, and added, drop by drop, a 1 per cent. solution of beta eucaine. It takes about fifteen or twenty drops to put this dosage in solution. That gave me about 5 c.c. of medicine, which I administered in four injections. The first two injections were absolutely painless. I did not see the patients for about thirty days after the injection, and they complained of nothing except a sense of stiffness for about an hour. The next three, given under the same technique, were apparently very painful. The patients were not confined to bed but, judging from the facial expression and the amount of opiate it took to control them, they must have suffered a great deal of pain. Then I tried plain water. The first injection of 8 c.c. with plain water, was painless, but the next three were very painful. The next technique I tried was the addition of a local anesthetic to the water solution, without any glycerine. This caused more pain than all the others put together. It is my experience that the old salvarsan, in suspension in oil, is a great deal less painful than neosalvarsan with the exception of a few instances. Reports of cases by other men who have given intravenous injections would seem to indicate that there was pain at the point of injection—a burning sensation where the needle passes through the vein. In cases where I have given it intravenously, the patients complained of no pain. One thing I have noticed in connection with the intravenous injection of salvarsan, is that the patient will complain of a peculiar taste in the mouth when about half the dose has been injected. I have not noticed this in connection with neosalvarsan, nor has any one else reported it so far as I know.

I believe that neosalvarsan has a great advantage over salvarsan in that all we have to do is to put it in water and it goes into solution.

As we all know, one of the greatest objections to the intramuscular injection of salvarsan has been that the solution is not good, and in some cases abscesses have developed following intramuscular injections of salvarsan, and in six weeks or two months after the injection when it becomes necessary to open the abscess cavity, practically the entire dose of salvarsan is found in it, having become encapsulated. Neosalvarsan will do away with all this. All we have to do in giving it intramuscularly is to keep away from the nerves, and we will have no trouble from it.

One thing we have to watch in giving either neosalvarsan or salvarsan is the unusual susceptibility of some individuals to the effects of arsenic. I have seen one fatal case, and my attention has been attracted to this feature more in connection with neosalvarsan than with salvarsan. Every one of my patients have shown evidence of jaundice for from three to five days after an intramuscular injection of neosalvarsan. All of them have complained of nausea and pain in the stomach, after either intramuscular or intravenous injection of neosalvarsan.

I have not followed the plan of giving larger doses at closer intervals; I have never given it at intervals of less than ten days. Two Englishmen have reported a series of about five thousand cases, and in this number all the fatal cases were those in which the dose had been repeated within ten days. I think this is of sufficient significance to cause us to be careful about repeating the dose until we learn something about the susceptibility of the patient to the influence of these new arsenic preparations.

Herbert Bronner: Dr. Day's report is a very interesting one. The point in which I was most interested was the doctor's statement that he believed in the future of the intramuscular method. I remember that, about a year ago, I made the statement, in this society, that the intramuscular method was the most efficacious, and in the light of recent literature on the subject, it appears that this statement has been substantiated. Those of you who are interested should read Dr. Fordyce's article in the last issue of the *Journal of the American Medical Association*, in which he makes the assertion that, from the standpoint of efficacy, there is no doubt that the intramuscular method is the best. This statement is also made by Captain Nichols, who has done a good deal of original work in this country with Dr. Fordyce.

As to the pain caused by the injection of either neosalvarsan or salvarsan, I cannot say that I have noticed much difference. I had the pleasure of following Dr. Day in his service at the City Hospital, and I noticed that most of them required at least one, and sometimes two, injections of morphine. In using the old salvarsan it was rarely necessary to give any more than this amount of morphine.

One point is that salvarsan oxidizes much more

readily than neosalvarsan, and in giving it by the intravenous method, unless one is an expert, if too long a time is taken in locating the vein, the solution is apt to become oxidized. Of course, in the intramuscular method, the technique is so simple that this need not be taken into consideration, but in intravenous injection it should be borne in mind.

Another point that has been mentioned is the temperature. We do not have to pay as much attention to the temperature of neosalvarsan as we did in using the old salvarsan. And, by the way, I will say that the men at the Rockefeller Research Institute do not pay near as much attention to the temperature as we have been accustomed to do here. I remember that when we first began to give salvarsan injections, we were instructed to keep the preparation at a certain temperature. This is entirely unnecessary in giving injections of neosalvarsan. In making a solution of neosalvarsan, the water should not be above room temperature.

It may be of interest to the members to know the practice in regard to administering either neosalvarsan or salvarsan at the Rockefeller Research Institute, where the most scientific work in this country is being done. They believe that one is just as efficacious as the other. I had an interview with Dr. Ellis who is doing the research work along these lines, and I asked him what their attitude was toward these preparations. He made this reply: "If one has a good right hand and an equally good left hand, why not use both?" They believe that we should use either neosalvarsan or salvarsan with mercury. Even in that institution, where they are doing work simply for the sake of investigation, they are not willing to do without mercury. The following is an outline of the way they handle these cases: They give two injections of neosalvarsan a week for three weeks, making six injections in all. The first dose is 0.75 grammes, and the next five doses are 0.9 gms. each. Then the patient is put on injections of salicylate of mercury for two months, followed by six more injections of neosalvarsan, which is in turn followed by two additional months of mercurial injections. That is the routine treatment. Of course, Wasserman tests are made every few days. This is what they call their "intensive" treatment, and it will be seen that they are not afraid of arsenical intoxication.

M. L. Ravitch: "The world do move." Last week we heard all about rheumatism phylacogens, knowing neither the etiology of rheumatism nor the composition of phylacogen, and now it is neosalvarsan. It is my belief that in ninety-five cases out of a hundred that are reported, we are not given all the facts. I recently had a patient who had a very severe form of latent syphilis. He did not want it to be known here that he had syphilis, so he asked me to send him somewhere for treatment. I sent him to a physician in St.

Louis who made four injections of salvarsan, and he came back here apparently perfectly well, but about two months later the same symptoms again manifested themselves.

I do not understand why, if we are going to use salvarsan, we should not use salvarsan alone, and not in conjunction with mercury. When we use mercury with it we cannot tell which does the work, the salvarsan or the mercury. In a symposium on the subject of syphilis at the last meeting of the American Medical Association, it was the opinion of many men that we should proceed very carefully in the use of salvarsan. Dr. Day has reported nine cases to-night, but he never mentioned that he examined these patients to ascertain whether or not any of them had kidney lesions, heart trouble, or any condition which might make the injection of salvarsan dangerous. Some time ago I saw a patient in consultation with a physician at Lexington, and I advised against the injection of salvarsan. Nevertheless, he administered it and the patient died. In using salvarsan we should examine the patient carefully for any condition that might contraindicate its use. Then in selected cases, use salvarsan alone, and see whether you get results from it.

J. A. O. Brennan: I am not so pessimistic as Dr. Ravitch. I believe that with good technique, clean instruments and a freshly made solution, there is very little danger in the administration of either salvarsan or neosalvarsan. I have given it only by the intravenous method, and I have never seen any bad results from it. I generally give it with mercury; never alone. I do not believe we can control the treatment unless we combine it with mercury. One man in Cincinnati gave salvarsan alone for a while, but I think he has discontinued that practice and now combines it with mercury.

Carl Weidner: In regard to the pain that follows the injection of salvarsan, I think this applies to practically any injection. Take the injection of mercury, for instance. Sometimes the patient will complain of no pain at all, and at other times they will suffer the most intense pain for twenty-four hours. It would seem that there must be some local condition to account for this. I would like to ask Dr. Day how he would explain it.

Geo. H. Day, (Closing): In regard to pain, I do not believe I have ever seen as much pain caused by anything as by the injection of bichloride of mercury. The only abscess I have ever seen from this cause followed the use of bichloride of mercury. I have given some four or five thousand injections and this is the only abscess I have seen.

There is only one man in the country who is now giving salvarsan alone in the treatment of syphilis. That is Wolbarst, of New York. I have discontinued using it alone and now combine it with mercury. I think every man who follows this line of work now knows that sal-

varsan alone will not cure syphilis. It is simply an eradicator of symptoms. One of the most severe cases I have ever seen was a patient in New York, to whom Dr. Young had given four injections of salvarsan, and the man had a negative Wasserman reaction at this time. He had complete loss of voice. He was shown to a medical society there, and it was remarkable how many lesions this man had, in spite of the fact that he gave a negative Wasserman reaction and had received four intravenous injections of salvarsan. I think it is generally believed that mercury is of just as much value now as it was before the discovery of salvarsan.

In regard to Dr. Ravitch's remarks, of course he knows that no one would undertake to administer salvarsan, or anything else for that matter, without having first carefully examined the heart, kidneys, etc. That is understood.

SALVARSAN TREATMENT; FATAL TERMINATION.

(REPORT OF CASE.)

By H. J. FARRACH, Louisville.

Patient, male, age 52, unmarried, traveling salesman, Irish descent. No severe illness at any time in life.

Contracted syphilis thirty years ago. Had chancre and secondary eruption. These disappeared promptly under treatment. Continued treatment for one year. No evidence of the disease in after years except an occasional sore in the mouth which disappeared without treatment.

Habits: Not a dissipated man, very moderate drinker, no sexual excesses but a continual smoker.

Present condition began some six months ago with soreness and irritation on swallowing. These symptoms gradually increased until they reached such severity that the pharynx had to be cocaineized before patient could swallow anything. This condition had been present for five weeks when patient was first seen. Had lost 80 pounds and the only nourishment taken was two ounces of milk or eggnog three times a day.

His condition was extreme. He was so debilitated he could hardly walk, there was a continual coughing and an abundant expectoration of a foul necrotic discharge. A diagnosis of pharyngeal tuberculosis had been made and he had received treatment accordingly. He had not received any arsenic, mercury or iodides.

Examination showed a large, ulcerating gumma involving the pharynx and part of the soft palate. Frequent examination of the pharyngeal secretion failed to show any evidence of the tubercle bacilli while the blood

serum was four plus (positive in both the Wasserman and the Nogonchi modification).

Iodides and mercury were administered, the latter in the form of the salicylate hypodermically. On the fifth day mercurialism was manifested by tender gums and frequent mucous stools. The throat condition was little or no better and patient complained of continual pain.

On the morning of July 8, 1912 0.3 gm. of "606" was given intravenously. During the injection the patient complained of a sticking, burning, "hot" pain in the throat and in the right side in the region of the liver. This continued until the beginning of the rigor some thirty minutes after the injection.

This rigor while intense was not severe and lasted some fifteen minutes. Two hours after the injection the chart showed temperature 102, pulse 146, respiration 32. Five hours after injection temperature 99 2-5, pulse 136, respiration 34. Seven hours after the injection temperature 98, pulse 88, respiration 24. Patient at this time showed a great deal of improvement. He drank water freely with no pain and expressed a desire for food. Kidney, skin and bowel action good. Cough greatly lessened but patient expectorated large pieces of necrotic tissue. Subjectively and objectively patient's improvement was little less than marvelous.

This condition of affairs continued for twenty-four hours. He had a good night and was taking all the nourishment given. Between the twenty-fourth and thirtieth hour after the injection he began to complain of feeling cold and of pain that seemed to be referred to the lower abdomen. Chart at this time shows temperature 94 2-5, pulse 80, respiration 20. In the following thirty hours the temperature was never above 95 3-5. The pulse was of good volume, ranging between 90 and 100. Excretion of urine for twenty-four hours was twenty ounces. Four low enemas within eight hours resulted in nothing but a greenish discoloration of the water.

During this period a severe muscle soreness developed. No pain in joint motion but muscles so tender that mere touch caused the patient to cry out with pain. He also complained of severe pain in the throat that was increased on swallowing.

In the next twenty-four hour interval the temperature curve was upward until it reached 99 4-5, pulse 100, respiration 26. In this interval no urine was passed and catheter procured but one-half ounce. Extreme muscle tenderness was still present with pain in the throat. Wrist drop was evident on right side and there was some disturbance of mentality, shown by flighty, disconnected conversation. Agents to increase renal activity were used

and within twenty-four hours were rewarded by a good flow of urine.

During the latter hours of this period evidence of jaundice was noticed and within the next twenty-four hours the jaundice was complete, even to the sclera and nails being colored a deep yellow. An intense general itching was present also. Chart during this period showed temperature between 96.3-5 and 97.5, pulse 80, respiration 26.

Within the following forty-eight hours the patient improved decidedly. Muscle soreness was less, there was little pain in the throat and he was taking nourishment and water at frequent intervals. The wrist drop was not so evident and the mentality clear. Temperature, however, was low, 97, and the jaundice still complete. Urine showed large amounts of bilirubin.

Patient retired on the night of July 14, 1912, feeling greatly improved and in good spirits. Went to sleep readily and slept well until 3 a. m. He began muttering in his sleep and became very noisy at times. At four-thirty he was aroused with difficulty and expressed severe pain on attempting to swallow. Chart at this time shows a temperature of 94.5, pulse 88, respiration 28. Pulse soft and of low tension. Mental condition increased, very restless and much muscle twitching. Bowels acting involuntarily, catheter procured four ounces of deep, bile stained urine. Continued in comatose condition and died in coma at five thirty p. m. No post-mortem allowed.

The question of the urine before the injection of the "606" and during the days that followed is of some interest. Five days before the injection it showed a trace of albumin but no casts. The morning of the injection it showed no albumin or casts but mercury was present. Ten hours after the injection there was a trace of albumin and a few hyaline casts and this condition of the urine from a renal standpoint was present throughout the severity of the condition. Even in the half-ounce obtained in twenty-four hours there was little albumin and few hyaline casts. The urine obtained on the last day was loaded down with albumin and casts. Bilirubin appeared at the same time the jaundice was noted and steadily increased in amount.

The potent question in this case is; was the condition that began twenty-four hours after the injection of "606" due to arsenic or was it due to the toxin liberated by the action of salvarsan on the treponema. That it was due to the salvarsan I think there can be no doubt.

The symptoms of acute arsenic poisoning are of one of two groups, those of the gastrointestinal type or those of a profound narcotic character. In the former, and the one most

commonly seen, there is a burning pain in the throat and stomach, tenderness in the abdomen, vomiting, great thirst, suppressed urine, frequent bloody mucus stools, rapid and feeble heart action, great anxiety and finally collapse. Associated with these symptoms are those of edema of the eyelids, epigastric tenderness, dyspnoea, disordered sensibility, urticaria and jaundice.

In this case there was no vomiting or thirst, the urine was not loaded down with albumin or casts, until the last day, the heart was not rapid (92), there was no anxiety on the part of the patient, nor was there any edema of the eyelids. But there was burning in the throat epigastric tenderness, severe muscle tenderness, suppressed urine, wrist drop and these followed by an intense jaundice.

In argument against the arsenical poisoning and for the toxin liberation by the destroyed treponema are the facts that the condition did not begin until twenty-four hours after the intravenous injection, that most of the symptoms can be explained by the action of such toxins, that there was a lesion in the liver as well as in the pharynx and the lack of kidney evidence of such a severe metallic poisoning.

I have given a good many, (sixty-five) intravenous injections of "606". I have noted the action of the so-called liberated toxins and have seen them in varying degrees of intensity but I do not believe the symptoms in this case can be explained on these grounds. If this was arsenical poisoning then the statement that salvarsan has but a slight or no toxic effect on the human body cell and a highly toxic action on the treponema is not true in every instance.

Of the preparation and chemical properties of the solution given in this injection there can be no doubt.

The explanation that this patient was peculiarly susceptible to arsenic is of course adequate, but how are to discover this idiosyncrasy before the injection?

DISCUSSION.

S. G. Dabney: I think the medical profession of Louisville is greatly indebted to Dr. Farbach for such work as he has reported to-night. Progress in medicine and knowledge of new remedies would be greatly enhanced if we had such frank statements from all members of the profession. I feel quite certain that only a small proportion of fatalities following the use of new remedies are reported.

Just a word about Dr. Farbach's case. This patient was referred to me from Southern Illinois some time during the month of July. I was out of the city at the time and the case was turned over to one of my colleagues, who sent him to Dr. Farbach. I returned to Louisville on the day af-

ter the injection of "606". Dr. Farbach has given a very graphic description of the case, and there is nothing I can add to it. My impression, however, was that he was a harder drinker than would be inferred from Dr. Farbach's statement. Another impression I received was that this patient was a very sick man; that he showed great exhaustion and was very ill when he arrived in Louisville. I got this impression from the nurses and from other people who had seen him rather than from the doctor.

The previous treatment of this case is of interest. Usually, in these cases of late syphilitic manifestations, if we will take the trouble to get a history of the course of the disease and treatment, we will rarely find that the treatment was continued for more than eighteen months, and the majority of them will give a history of only a few months' treatment. Here was a man who had undergone treatment for only a year at the longest, and very likely it was superficial treatment at that.

The lesion in this man's case, as the doctor described, was a very extensive gummatous infiltration of the pharynx, also involving the palate, which had broken down. Of course, nutrition was greatly interfered with, both because of the disease itself and because of the very great difficulty that the man experienced in swallowing.

Just a word or two about this remedy, "606", which has attracted the attention and interest of the medical world everywhere. To the vast majority of cases syphilitic symptoms yield promptly, sometimes even amazingly, to mercury and potash. The real problem would seem to be these late manifestations, classed as para-syphilitic—such as optic atrophy and Tabes dorsalis. It remains to be seen what influence "606" will have in preventing or curing these conditions—certainly its immediate effect on the nervous symptoms is sometimes disastrous. It does not appear to me that there is anything like the enthusiasm in regard to the preparation that there was a year ago. The idea that syphilis can be cured by two injections of salvarsan has been given up, and the majority of men to-day combine mercury with it. "606" certainly has very untoward immediate effects upon the nervous system; what the final results will be of course we cannot say. A number of fatalities have been reported following its administration. Recently, a gentleman in St. Louis read a paper before the American Medical Association, reported four cases in which death from encephalitis occurred following treatment with salvarsan. On the other hand, in this particular instance, there were several good reasons for the use of the drug. In the first place, the man wanted it; he told me so himself. After reaching the city I talked the case over with him. He said he knew he was in a bad way and was willing to take anything that offered any hope. In the second place, the patient was undoubtedly a very sick man; the

extreme exhaustion and extreme cachexia had progressed so far that it is doubtful if any remedy would have saved his life.

I am very glad to have heard this report, and I think we should all feel grateful to Dr. Farbach for it.

Herbert Bronner: Dr. Farbach was kind enough to tell me about this case at the time and there was no doubt in the minds of either of us that death in this case was directly due to arsenical intoxication. It may be of interest to the society to know that, at about the same time that Dr. Farbach had this case, Dr. Keyes, of New York, reported a case so very similar to his that it is really remarkable. Keyes' case was a young man in robust health. He stated that the urine had been examined and found absolutely normal. He also stated that there was no change in his technique; that he used the same method as heretofore, being careful to carry out Ehrlich's injunction to use perfectly distilled, sterilized water, so that there was no possibility of error in this respect. Keyes' patient developed the same symptoms that Dr. Farbach reported; namely, marked jaundice and involvement of the kidneys. However, this patient did not develop the wrist-drop present in Dr. Farbach's case. In Keyes' case the symptoms likewise appeared in 48 hours, and for three or four days the patient voided no urine, the small amount excreted being withdrawn by means of a catheter. Keyes' patient died on the seventh day. I think Keyes' conclusion was that death was due to arsenic poisoning.

Brown and McKenzie, in their late work on syphilis, report a series of fatal cases following the use of salvarsan in which they had an opportunity of making post-mortems, and in several cases the patient had jaundice and acute nephritis.

Three other deaths have recently been reported but, unfortunately, the cause of death was not given. As Dr. Dabney mentioned, in two cases death was ascribed to encephalitis.

It seems to me that the important lesson to be learned from this report is that we have no means of knowing when a patient has an idiosyncrasy for arsenic. For that reason, if we can discover some method of intramuscular injection that is not painful, it will be less dangerous to the patient, because, by the intravenous method the drug is thrown directly into the circulation and the patient has no chance, whereas, if given intramuscularly, absorption is slower and if any untoward symptoms arise we can simply make an incision and release the arsenic.

Geo. H. Day: I would like to ask Dr. Farbach if he does not think that, in such cases as he reported, it would be well to divide the doses, or, better still, give it in the form of suppositories? I believe that if we will divide the doses and give small doses until the patient gets stronger, and then begin intravenous injection, we will get

better results in cases like that of Dr. Farbach's.

H. J. Farbach, (Closing): This case taught me one thing. I saw, through the courtesy of Dr. Day, a negro who was in practically the same condition as the case reported. The ulceration was so bad that it was necessary to do a tracheotomy. The secretion could not be kept out of the bronchial tubes and it would almost choke him to death. That man has had no treatment whatever for two weeks and still he is getting well.

Geo. H. Day: I gave him two doses of "606".

H. J. Farbach: In the case reported I used "606" as a terminal measure, as it seemed that he would certainly die without it. I am led to believe that "606" is contraindicated in syphilities that are greatly emaciated and depressed. To-day I saw a case of ulcerating gumma of the epiglottis, and I believe it will be far better to put this man on iron and cod-liver oil and build up his fighting forces, and then, if he will not respond to mercury, give him the arsenical preparation. It may be that, in this depressed state of metabolism, the chemical elements or cells of the body are different from what they are in a robust state, and that under these circumstances the preparation unites with the body cells as well as the bacteria. Therefore, I think we should be very careful in the use of salvarsan in cases where there is great emaciation and depression.

GALL-STONES IN THE COMMON DUCT.

(REPORT OF FIVE CASES WITH SPECIMENS.)

By JNO. R. WATHEN, Louisville.

In presenting the report of these five cases and exhibition of the specimens removed, I would call attention to the fact that gall-stones in the common duct are reported in about one case in every ten by the surgeons who have had the very largest experience and in the hands of the average surgeon about one in every twenty-five cases.

This is probably due to the average operator being content to remove those from the gall-bladder and not being very careful or enthusiastic about a further search of the bile ducts, or at least not having the proper technique or instruments for this later procedure, or even not fully appreciating the anatomy of these parts.

While it has been estimated that jaundice occurs in only about 14% of cases of gall-stones, it has been well established that gall-stones in the common duct give rise to jaundice in the majority of cases, probably in about two-thirds of the cases. If the stones remain in the gall-bladder the pathology remains local, but when they attempt to pass out and reach any portion of the common duct, they then cause damage to organs which are very essential to life as the liver and the pancreas.

As the gall-bladder has no lymphatic glands and few lymphatic channels, we can understand how stones may remain for long periods without causing pronounced symptoms, but when they pass out and obstruct the common duct we have pain and often a high fever, 103° to 107° F.

Mayo claims a mortality of 2.75 per cent. for 4,000 operations for gall-stones. Where the disease was local and confined to the gall-bladder and cystic duct a 1.8 per cent. mortality. In 492 cases in which the common duct was involved a mortality of 8 per cent.

Mayo further says: "The removal of stones from the common duct during the quiescent period gave a mortality of less than 3 per cent.; in the cases marked by active cholangitis with jaundice the mortality was about 10 per cent. Where there was complete obstructive jaundice, that is, no bile in the ducts, the mortality was nearly 25 per cent."

The following cases I wish to briefly report:

CASE I.

Mrs. K., of Louisville, age 59 years, widow with two grown children. Previous history negative. Had complained of chronic indigestion for a number of years. Gall-stone colic at frequent intervals for one year before operation. When I first saw her she was badly jaundiced, could eat almost nothing, had lost much weight and was suffering from colic at frequent intervals. Temperature and pulse would be variable. Operation revealed a large thickened gall-bladder containing over 100 gall-stones. Many adhesions. Careful exploration of ducts located three stones in the first portion of the common duct. These were removed and drainage instituted. Patient made uneventful recovery and jaundice cleared up.

CASE II.

Mrs. C., of Elizabeth, Ind., age 45 years, had complained of chronic indigestion for a number of years, with occasional attacks of pain and vomiting. Upon examination found marked tenderness in region of appendix and also some slight tenderness over gall-bladder. Patient was slightly jaundiced, temperature and pulse about normal.

Operation showed a chronic inflamed appendix with adhesions and also adhesions around gall-bladder. Appendix was removed and when gall-bladder was opened 143 stones were found. Common duct explored, by Mayo probe, and four small stones removed from first portion of common duct. These stones were held tightly in place, and it was surprising how little jaundice patient showed considering this fact. Patient made a nice recovery.

CASE III.

Mrs. K., of Corydon, Ind., age 26 years. When first brought to the city was found in a very weak and emaciated condition, badly jaundiced, temperature 103°, pulse 120 and suffering much pain.

Rested and prepared patient for 48 hours and at operation removed 275 gall-stones from the gall-bladder, two stones from the cystic duct, one from the hepatic duct and three from the first or second portion of the common duct. Patient made a good recovery.

CASE IV.

Mrs. D., of Louisville, age 41 years, complained of occasional attacks of gall-stone colic and acute indigestion. When first seen by me in consultation she was much jaundiced, suffering pain requiring a 1-4 grain morphine to relieve, and vomiting all food she attempted to take into the stomach.

Operation revealed a very large, dilated gall-bladder, which, when opened, contained a thick black bile but no stones. Upon further search I discovered a large stone at the juncture of the hepatic, cystic and common duct. I made every effort to get the stone back into the gall-bladder but without success. I then incised the duct and removed the stone, only after I had crushed one end in the effort. This patient died six hours after operation from shock.

CASE V.

Mrs. P., age 50 years, of Hazard, Ky. When first seen on arrival in the city, I found her deeply jaundiced, high fever, rapid pulse and with a history of gall-stone colic at intervals for a long time. Patient had lost much weight and from general appearance I was inclined to believe we had a malignant condition of the head of the pancreas to deal with. After a few days' preparation by the usual measures I opened over the gall-bladder region, and found a small, thick and contracted bladder, which, when opened, contained only a clear fluid. The cystic duct was strictured and upon further examination I found a much dilated hepatic and common duct. In the first portion of the common duct was a large stone embedded tightly. This duct was incised, stone removed, and drainage made. Patient recovered.

DISCUSSION.

Louis Frank: I wish to call attention to just one point. The impression one would get from reading this report (while it may not be what the doctor intends to convey) is that operations for stone in the common duct are attended by comparatively little danger and a rather low mortality. As a matter of fact, operations for stone in the common duct are among the most dangerous

procedures in abdominal surgery. When these operations are done in the presence of profound jaundice, rigors and temperature, the mortality, as has been stated by men of large experience, will be far greater than this report would lead one to believe; in fact, from conversations that I have had with a number of men who have done a great deal of work along this line, the mortality in these cases is about 90 per cent. I make this statement because I do not believe the impression should go out that the mortality in these cases is as low as 10 per cent, or even 25 per cent. Furthermore, I believe it is the consensus of opinion among men of the best judgment that operations should not be done in the presence of jaundice, rigors and temperature if it can possibly be avoided. I think the men who have seen a great many of these cases will bear out the statements I have made.

W. C. Dugan: Dr. Frank has made a point that I wish to emphasize, and that is against radical operative interference in the presence of profound jaundice. I believe these cases should be drained. I remember a patient that was brought into St. Joseph's Infirmary one night with a temperature of 104, very rapid pulse and frequent chills. I am sure that patient would have died had I attempted to do a major operation. I opened the gall-bladder and established drainage. The patient recovered and went home, but returned in a few weeks for operation for the removal of a stone in the common duct, which was successful. I am sure I would have lost that patient had I attempted a major operation when I first saw the case. The jaundice and intense sepsis makes these very unfavorable cases.

In regard to the small stones Dr. Wathen mentioned, I do not think we should open the duct in these cases. I have never seen one of these stones that failed to come back through the drainage tube. Where you have a large number of small stones in the gall-bladder, and you find the same character of stones down in the duct, we should treat them in this way. It is the large single stone in the common duct that we have to take care of; the small stones will take care of themselves.

I want to go on record as opposing radical operation in these cases where the patient is in bad condition. Drain the gallbladder, get your patient in as good condition as possible and then do a radical operation.

J. Garland Sherrill: This discussion has reached a point where I feel that I want to say something. We all agree that prolonged, persistent jaundice cripples the patient's resistive powers, renders him more liable to be subject to hemorrhage, and destroys the kidney and hepatic functions. Consequently, it adds greatly to the risk of the operation. However, I do not believe any one here would refuse to operate upon a case of infected stone in the common duct, which was

jeopardizing the patient's life, simply because that patient had jaundice. I believe it is bad teaching to say that we should leave these cases alone and depend upon drainage by flushing the alimentary canal where we have a stone impacted in the common duct. When you drain the gall-bladder the shock to the patient is just about as serious as to complete the other part of the operation. It takes only a few minutes longer and the results obtained are so much better than I do not believe we are justified in closing up these cases where we know that there is a stone in the common duct, without removing that stone.

Jno. R. Wathen, (Closing): I have never heard anything that surprised me more than Dr. Frank's statement that the mortality in these cases is 90 per cent in the hands of the best men. In my experience the mortality has been about the same as that of Mayo and others—about 20 per cent. I believe that, in more recent reports, Mayo gives the mortality as 25 per cent., but I am rather surprised that any one should have such a high mortality as 90 per cent. If you will recall the histories of these cases, you will remember that I did not operate on these patients the first time I saw them, but prepared them for several days. I removed the small stones with a pair of forceps and the large ones by cutting into the duct and establishing drainage.

MULTIPLE, SESSILE PAPILLOMATA OF THE LARYNX.

By W. D. LEVI, Louisville.

Mr. S., came to me on May 31st, last. He is 31 years old and a planer by occupation. He has been in perfect health since childhood, but gives an unsatisfactory venereal history. For the three years prior to this trouble, he called three or four large dances a week for six or seven months a year.

The condition began with huskiness, which slowly increased until his voice was reduced to a whisper and respiration was embarrassed.

He at no time experienced pain and has coughed nearly none.

Twenty-eight months ago while residing in Denver he consulted a throat surgeon. The patient was first saturated with potassium iodide for two months on the hypothesis that the growth might be a syphilitic granuloma. This medication was *negative*. Then an intra-laryngeal removal was done. The tumor tissue on microscopical section was diagnosed papilloma. The papillomata were removed in some sixteen operations through the natural opening. His voice, though not regaining the normal was restored after the first few operations and the respiratory embarrassment relieved. He left Denver last December and between then and last May these (exhibiting specimens) papillomata recurred.

When he came to me the anterior half of

the glottis was choked with these sessile cauliflower-like tumors. He was hoarser than now and had difficulty in breathing when he stooped over in his work.

On July 27, we did our fourth and last operation and since then he has had no treatment but spraying the larynx with 95% alk. which he does daily.

There are now to be seen recurring growths on the laryngeal surface of the epiglottis and others on the anterior surface of the hypolarynx just below the cords. I am reporting this case in order to get suggestions on methods to prevent repeated recurrences of this tumor.

DISCUSSION.

Gaylord C. Hall: I was able to get only a superficial view of this patient's larynx. I think Dr. Levi is to be congratulated upon clearing up the case as thoroughly as he has, and from what I was able to see, it should not be difficult to deal with the remaining papilloma and effect their complete removal by intra-laryngeal operations. As we all know, papilloma of the larynx is most apt to be recurrent in children; as the age advances the tendency to recurrence decreases. In view of this man's age, I should think that under repeated intra-laryngeal operations, he should in time become entirely free from the trouble.

I would like to suggest one thing to Dr. Levi in connection with this case. I have had several of them and have run the gamut of applications, and I can suggest a better remedy than 95 per cent. alcohol application to the larynx. One remedy that I have found will influence these growths favorably and decidedly, is formalin solution. First, begin with a weak solution, 2 to 5 per cent., and gradually increase it to 10 per cent. I have not seen a case that could stand a stronger solution than 10 per cent. I remember particularly a case I had in a young lady schoolteacher, who had entirely lost her voice as the result of the development of a papilloma in the larynx. After having been repeatedly operated upon, she finally came under my observation, and by the same method of operation which had previously been without result, plus the application of formaldehyde solution, the trouble entirely cleared up, and there has been no recurrence in the four years that have elapsed since that time.

In children, I think it is best to do a tracheotomy, without any attempt at intra-laryngeal operations, because of the fact that these growths recur so rapidly that it is practically impossible to get rid of them by operation. By doing a tracheotomy, however, thus putting the throat absolutely at rest, the condition will very often clear up in two or three months and not recur.

I remember a little colored boy who came under my observation during my service at the City Hospital, some four years ago. By intra-laryn-

geal operations I was able to remove the papillomata, but told the mother that they would likely recur and that at the first sign of recurrence she must bring him back. When I next saw the boy he was almost completely asphyxiated, and practically moribund. I took him to the University Building and did a tracheotomy. I injected a little cocaine, made a hurried incision and put in a tube.

Dr. Secord Rarge, of Cleveland, recently suggested a method of locating the trachea in these cases. He uses a large, curved needle threaded with silk, passing the needle through the skin and muscles on either side of the trachea, and then making the incision between. By this means the trachea is held in place and does not fall away with the respiratory movements.

In the case mentioned, after tracheotomy had been done the child was put in the ward, with the usual accompaniments of steam-heated air and vapors. He did badly and for a while I thought he was going to die. This was in the winter-time. Finally, the Superintendent and myself devised a window tent, we put him out in the cold, and thereafter the case was treated exactly as we treat pneumonia in children. He got along beautifully and finally recovered.

Regarding laryngeal papillomata in general, I would say that in the recurrent form in children, tracheotomy should be done. In older patients, if we will persist in intra-laryngeal surgery followed by applications of formaldehyde solution to the bases of these growths, I think the majority of these cases will clear up without any trouble.

J. M. Ray: I have seen a number of these cases, both in children and in adults, and I agree with the last speaker in one respect: that in children, the best treatment is either intubation or tracheotomy. I had two cases in which I introduced a tube which they wore for from three to six weeks. The pressure of the intubation tube causes absorption of the growths and there is usually no recurrence. At the present time I have under observation a child with papilloma of the larynx, which I have had to treat by intra-laryngeal methods. I intubated this child several months ago, but the tube would not stay in. The child would cough it out in two or three minutes. As long as the child is not embarrassed in breathing, I propose to let it alone, but if it should develop difficulty in breathing, tracheotomy will be done. In most instances, after putting in a tracheotomy tube and resting the larynx, these growths will disappear, and the only trouble we have afterwards is to get rid of the tracheotomy tube, which is almost as hard as getting rid of the growth itself.

I have had several cases of laryngeal papilloma in adults, and they will persist in recurring. I think Dr. Levi referred to one case that has been reported in which there were twenty-nine recurrences.

As far as local treatment is concerned, I do not think an alcohol spray does much good, because most of it goes into the stomach and very little of it gets into the larynx. As to formalin, I have heard that recommended, and I used it faithfully in the child I mentioned, but without any effect.

I would make this suggestion to Dr. Levi in connection with his case: I believe if he will introduce a direct laryngoscope and pinch these growths off, and then make application of alcohol and formalin to the bases of the growths, it will have a beneficial effect. Then have the man come to the office every day or two, and put in a laryngoscope and swab out the larynx.

S. G. Dabney: I congratulate Dr. Levi upon the successful conduct of the case thus far. My experience has been about the same as that related by Dr. Ray and it would be merely repetition for me to discuss the case farther.

Adolph O. Pfingst: It may be of interest to know that some of the German laryngologists have been using radium in the treatment of this form of tumor. They apply it through an aluminum tube passed to the larynx through the mouth. In cases which have progressed so as to invade the under surface of the cords, they advise that a tracheotomy should be done and the radium applied through the tracheotomy wound.

I would like for Dr. Levi, in closing, to state whether in his experience in Vienna, he has ever heard or seen anything in regard to the use of arsenic internally in these cases. I have read of its use and recently saw a case in which it had been given, however without success.

W. D. Levi, (Closing): Answering Dr. Pfingst's question, I will say that Herbert Tilley, of London, recommends the use of arsenic where there is some constitutional indication. However, so far as I have been able to learn, constitutional derangements do not have much effect upon these growths. I do not know anything about the use of arsenic in Vienna. I have noticed that a good many men recommend it, but I do not think it indicated in such a robust individual as our patient.

As Dr. Pfingst says, most writers on the continent and in England have advocated the use of arsenic in these cases, particularly where there is some constitutional defect indicating arsenical medication. This patient is unusually healthy and so far as I am able to learn constitutional derangements play at most a small part in the etiology of tumors.

I shall be interested in trying formalin topically in this case.

MEDICAL PROGRESS

DEPARTMENT OF GENERAL MEDICINE

Fibrillation of the Auricles; Its Effect Upon the Circulation, by Thomas Lewis, M. D.:—Auricular fibrillation, so designated by Lewis about three years ago, was first described by Mackenzie as "nodal rhythm," and consists of very rapid fibrillary contractions of the auricles, preventing their normal systolic action.

Examining more than one hundred patients with heart failure and irregular pulse, Lewis was able to demonstrate by the electrocardiograph the presence of auricular fibrillation in seventy per cent., and he regards it therefore as the most common form of irregular heart action in man—a conclusion now generally accepted.

The observations here reported are based on the results obtained by experimentation upon a very large number of animals.

Under normal experimental conditions the inception of auricular fibrillation caused the ventricles not only to assume an irregular rhythm, but their action became also accelerated from 50 to 100 per cent.

The blood pressure changes were carefully studied, and were found wholly dependent upon the amount of blood thrown into the arteries by the heart, no vaso-motor action of the periphery being manifested. His experiments show that in simple tachycardia a considerable acceleration of the ventricles may occur without change of arterial pressure, or that such increase of rate may be accompanied by a slight rise or fall of the pressure, but as higher rates are reached a fall in the pressure always occurs, increasing the proportion to the increase in the heart rate. This proves that the rate is a predominant factor in producing the usual fall of blood pressure. The venous pressure was found to move, as a rule, in the opposite direction from the arterial pressure. "We may conclude, therefore, that the changes in arterial pressure are due solely to the change in the mechanism of the heart beat and we may seek the cause of all circulatory pressure changes in this organ." It is further observed that the fall of arterial pressure is less profound when the ventricular action is regular than when the regularity is disturbed. As a reason for this difference Gesell has emphasized that normally the auricles aid in ventricular filling to an extent which cannot be questioned. This argument is met by Lewis, who believes the auricular fibrillation instead of a fall of blood pressure may remain unaltered, or may actually rise. The absence of auricular filling of the ventricles, as when the

auricles fibrillate, seems to him to be almost if not quite compensated for by increased venous pressure, which ensues when the arterial pressure falls.

In auricular fibrillation the rate of ventricular action is one of the most important indications of the gravity of the condition as a whole.

When the auricles pass into fibrillation the mean volume of the heart decreases. This reduction in size is observed whether the arterial pressure rises, falls or remains stationary. It is due entirely to change in the size of the ventricles. Up to a certain point the greater the acceleration, the greater the reduction of the volume of the heart. The heart is small at all phases of its beat. The decrease in the heart volume is independent of the velocity of the flow through it. The flow is usually reduced, with consequent fall of blood pressure, but it may be increased producing a rise above the initial pressure. The decrease of heart volume appears to result from purely mechanical causes; shortening of the diastolic periods as a result of the acceleration is sufficient alone to account for it. Section of all the cardiac nerves does not interfere with the reaction. In the human subject the onset of auricular fibrillation is often accompanied by obvious increase of volume. On a few occasions dilatation occurred in the present series of experiments. This reaction was probably due to nutritional changes in the ventricular muscle.—*Journal of Experimental Medicine*, Oct. 1, 1912. F. C. A.

Expulsion of Pleuritic Exudate by Inflation, by I. Holmgren, Stockholm:—This method has decided advantage over spontaneous absorption when the exudate is moderate or extensive in size. The deposit of fibrin, followed by connective tissue proliferation and contraction of the lung, which usually results from ordinary effusions of the pleura when left for spontaneous absorption, can be obviated by Holmgren's method of inflation, which at once effectively clears the pleural cavity of its contents. The procedure is also to be preferred to ordinary aspiration, inasmuch as all the exudate can be removed at one sitting and without much discomfort or danger to the patient. As aspiration is ordinarily performed care is taken that only 1000 c.c. or, at most, 1500 c.c. be removed at one time. The reasons for this are partly the risk of inducing such symptoms as cough, chest pains, dyspnoea, anguish, etc., and even oedema of the lung, due to a considerable reduction in the intrapleural pressure, and partly the expectation that the removal of a small amount of exudate will give an impulse to a speedy spontaneous absorption, rendering a complete evacuation unnecessary.

When inflation is practiced these reasons do not obtain. The pleural sac is at once completely emptied and in place of the effusion a quantity of air is left, preventing too great a reduction of the intrapleural pressure and at the same time separating the walls of the pleura, thereby reducing the chances of adhesions to a minimum. No disadvantage from this artificial pneumothorax has been observed, although in some cases it must have persisted for more than a month. Other writers who have practiced the Forlanini method of inflation for pulmonary tuberculosis have found that the elasticity of the lung remained unimpaired after a compression lasting from one to two years. However, when a more rapid expansion of the lung is desired the pleural sac may be inflated with compressed oxygen instead of air.

On account of the lesser strain upon the elasticity of a damaged lung and the lesser liability to reopen a perforation, besides a more thorough evacuation of the pleura, the inflation method is to be preferred to ordinary aspiration in cases of tubercular empyema, pyopneumothorax, and hydro-pneumothorax. Holmgren considers, therefore, this method indicated in all cases of pleuritic effusions, except when the exudate is so slight that its spontaneous absorption can have no bad results.

TECHNIQUE.

The skin is painted with tincture of iodine, and a 1% solution of cocaine or novococaine is injected hypodermatically at the point of thoracentesis. A trocar is inserted in the tenth intercostal space, between the scapular and posterior axillary lines. After the point of the instrument has entered the cavity, it is directed upward to avoid injury to the diaphragm. A rubber tube is then attached to the trocar and the exudate is allowed to escape by virtue of the intrapleural pressure.

Another trocar is now inserted at a higher point for the purpose of inflating the pleural cavity. Through a rubber tube this trocar is connected with a Potain bottle or a similar contrivance partly filled with water and so arranged that air is forced by a pump or atomizer bulb through the water in this bottle and into the tube of the trocar, thus reaching the pleural cavity. The purpose of the water is simply to afford an estimate of the amount of air employed. Sterilization or filtration of the air to be injected is unnecessary for no infection from this source has been observed. Comparison is made with the opening of the peritoneal cavity in tubercular peritonitis, where a free access of air seems decidedly beneficial.

During the aspiration the pleuritic fluid will flow through the tube of the lower tro-

car until the intrapleural pressure plus the pressure of the fluid in the tube, becomes equal to the atmospheric pressure. The negative pressure in the pleural cavity which thus ensues results in an undue distension of the lung, producing chest pains and coughing. By forcing air through the upper trocar the discomfort ceases almost instantly, and the flow starts again. To avoid all discomfort a small amount of air may be injected in advance of the oncoming symptoms, and the process is repeated until the exudate is entirely removed. The escape of the last drops of fluid will be favored by raising the outer end of the lower trocar, and when the cavity is empty only air will pass through the tube. At this time the pleural cavity will be in direct communication with the atmospheric air, which now exerts an equal pressure upon the outer and inner surfaces of the lung, thus affording an elastic pulmonary equilibrium. While at the beginning of the thoracentesis the pressure within the pleural sac was increased, compressing the lung, it will be found that during the inflation the lung will expand.

Should more air be injected than the escape of the serum would warrant, the patient would complain of a sensation of thoracic constriction. This is a signal to stop the inflation until a sufficient quantity of the exudate has escaped, or if more speedy relief is desired, the stopcock connected with the upper trocar may be turned to release the excess of the injected air. Much discomfort or danger from this cause is not incurred.—*Hygica*, Stockholm, Sept. 1910. F. C. A.

The Vasodilators. In the August number of the Monthly Cyclopedica, Francis Ashley Faught presents a consideration of vasodilators as a group, emphasizing three important points: 1. The absolute necessity of applying the blood-pressure test as a logical and the only accurate means of acquiring definite information concerning the condition of the circulation, and the indications for its modification and control. 2. The mere finding of an elevated blood-pressure is not necessarily an indication for its reduction. Indeed, the latter should never be attempted unless there is a good and sufficient reason, based on the careful study of the case, for doing so. Long continued high pressure often becomes a necessity to the organism, and if it is interfered with the patient's circulatory equilibrium will be destroyed and disaster result. 3. Drugs by no means constitute the only agency we have for successfully combating hypertension. They are often not indicated when the same results can be better and more permanently accomplished by other means, including diet, hygiene, hydrotherapy, exercise and electrical treatments. The vasodilator group of

drugs belongs to that large and indefinite class known as the depressomotors. As to the individual members employed, the effect of amyl nitrite taken as a standard is to increase the frequency of the pulse and rapidly to diminish the blood-pressure. All the members of the vasodilator group have essentially the same action on the circulation as amyl nitrite, varying slightly because of particular minor characteristics of the individual drugs. The individual selection of the particular drug to be employed in a given case will depend upon the character of the case, the urgency of immediate action, and the effect desired. Before employing any drug of this group, it should be carefully ascertained that the preparation, particularly if a solution, is strictly fresh, as failure to obtain the desired result may be due entirely to the use of an inactive specimen. Tablet preparations are known to vary greatly in strength and should be of standard make. This defect can, according to some observers, be avoided by the employment of fresh chocolate preparations. Sodium nitrite in solution rapidly loses its activity and should not be kept for more than one week. All these drugs may be employed hypodermically when desired, but for continued use they should, if possible, be given by the mouth. Miller has pointed out an interesting clinical fact, that not only may wide variation in the effect occur from day to day, but different drugs of the same group, as nitroglycerin and sodium nitrite, may affect the same individual differently. Vasotonin is a combination of yohimbin and urethane. The use of this preparation has been confined chiefly to Germany, and so far American observers have failed to obtain the uniformly favorable results reported abroad. In view of the dissenting evidence the drug cannot be recommended, and if used at all its effects should be followed with care. As to diuretin, W. H. Hamburger strongly advocates the use of theobromin in this form and finds it very valuable in hypertension and arteriosclerosis of the abdominal vessels, although the effect on the heart is not constant. B. D. C.

Neosalvarsan.—Abr. L. Wolbast, in the *Medical Record* for July 27, presents a preliminary report on neosalvarsan. Neosalvarsan is the name given to the newer and better salvarsan the laboratory number of which, 914, indicates the tenacity and fixity of purpose which predominate in the Frankfurt Institute. His conclusions as to neosalvarsan are, 1. The clinical results are at least as striking as those of salvarsan. 2. The reaction after treatment is nil or very slight with correct technique. 3. Larger doses are more readily tolerated than the salvarsan. 4.

The neutral reaction of the solution in water obviates the use of sodium hydroxide, thus avoiding the possibility of thrombosis. 5. Leakage of neosalvarsan into the tissues seems to be absorbed much more quickly than the salvarsan. 6. Patients feel the inflow of the neosalvarsan solution much more than that of salvarsan, in the form of a sense of burning at the site of the injection. 7. Neosalvarsan has no apparent effect on the eyes, kidneys, heart or lungs. 8. Intravenous injections may be repeated in two or four days. 9. The neutral reaction of neosalvarsan solution lends itself readily to intramuscular medication, which is admittedly more efficacious than the intravenous. 10. The suspension in glycerin is made almost painless by adding a few drops of 1 per cent beta eucaine or alypin solution. 11. The solution of neosalvarsan in distilled water is very painful. B. D. C.

Blood-Pressure.—In the *Archives of Internal Medicine* for August, Harlow Brooks and John H. Carroll report the results of a clinical study of the effects of sleep and rest on blood-pressure. Numerous physiological researches on both man and the lower animals have shown that there is a marked fall in blood-pressure during sleep. Leonard Hill, although admitting that a fall in pressure took place, did not believe that this drop was any greater during sleep than that which has been demonstrated to occur as a result of simple rest combined with the prone posture. Brush and Fayerweather, however, showed definitely that this was not the case, but that the fall was concurrent with sleep and that it was greater than the drop which sometimes, with sleep invariably, takes place simply from rest or lying down. In attempting to apply these observations clinically Brooks and Carroll endeavored to ascertain whether prolonged sleep causes a proportionate lowering of the pressure. Within an ordinary degree at least this does not appear to be the case, and attempts to secure even a temporarily lower twenty-four hour pressure by prolonging or deepening the sleep were apparently without avail. Furthermore they found that little difference existed in the total twenty-four hour pressure whether the patient is confined to bed or is allowed to be up and about. A special series of observations (ten instances) were conducted to determine whether the sleep drop might not be artificially increased in order to secure a lower pressure curve in concrete cases of high pressure. They obtained no results in this direction and in cases in which the drop and curve has been previously determined, by the administration of potassium bromid in a dosage of 120 grains the degree or persistence of the fall was not increased. The same lack of result was shown

when chloral hydrate in a dosage of 50 grains per night was given; the drop and curve were not materially altered. From these and other clinical observations they feel justified in the discouraging conclusion that this sleep drop cannot as yet be utilized therapeutically to lower the blood-pressure and that although its effect in high blood-pressure cases is more marked than that of any drug in medicinal doses it cannot be employed therapeutically. It may, however, be said parenthetically that the more they study this question of blood-pressure, the more they become persuaded toward the conclusion that the often frantic efforts to lower high blood-pressure are perhaps as harmful, if successful, as they are usually futile. B. D. C.

PULMONARY TUBERCULOSIS.*

By W. L. TYLER, *Curdsville.*

Tuberculosis is an infectious disease, caused by the bacillus tuberculosis. The infection is a slow one of indefinite incubation, and after the implantation of the specific germ, it may be weeks, months, or possibly years, before any manifestations of the disease appear.

When the microorganisms become effective by means of a favorable soil, it produces a specific inflammation, characterized by a new formation of tissue either in the form of tubercle or of a diffuse tubercular exudate. These new products undergo further change resulting in caseation and sclerosis; in the former, we may have softening, destruction, encapsulation by means of fibroid envelope or calcification; in the latter a transformation of the tubercle or exudate into a cicatricial fibroid tissue. In fact, these two processes generally go on together, and the course of the disease depends on which is predominant. Nature produces her cure by the overthrow of the caseous tendency, through the stronger fibrous one; and in absolute tuberculous lesions of the lungs, met with at autopsies, a fibroid induration at the apex of the lung, or a caseous nodule encased in fibroid envelop is all that remains of a previous tubercular focus. In the lungs, the most common seat of tuberculosis, and where it is most important clinically, the destructive process caused by the bacillus prepares an inviting medium for other microorganisms, principally the streptococcus, staphylococcus and others.

The secondary or mixed infection gives rise to characteristic symptoms of septic nature, the "hectic fever." Although there is a difference of opinion regarding the role played by the introduction into tubercular tissues of other microorganisms, still the view is gen-

erally held that the mixed infection is the immediate cause of fatal results in some cases. Whether or not a pure tubercular infection, without the presence of other bacteria, is accompanied by fever or other constitutional disturbances may be a debatable question. As however the tuberculosis extends from the primary infection, and reaches a certain time period, it is likewise probable it is accompanied by fever—the initial fever. Further evidence of this is the fact that a rise of temperature follows the injection of tuberculin, if there is any tubercular focus in the body; and furthermore high fever is a constant symptom of miliary tuberculosis, which is a pure tubercle bacillus infection. I think it is later in the disease that we have the so-called "hectic fever" of mixed infection. Infection very rarely occurs from transitory exposure to the bacillus or in the open air. It is by a continued and oft repeated exposure, as in infected houses or workshops, that the disease is most frequently contracted. Fliick has well named tuberculosis a "house disease." The observation is common of one member of the household becoming tuberculous, after long confinement in the house, breathing bacillus-laden atmosphere, while caring for another member suffering from the disease.

The cause of these numerous cases in the same family, was formerly ascribed to inheritance—we now know it is infection. But with continued exposure to the infection, not every one exposed to the disease will develop it; there must be at the same time a receptive state which may be the result of an inherited or acquired susceptibility—more frequently the latter.

Genuine inheritance of tuberculosis is extremely rare if it occurs at all (although late observations would seem to indicate that the tubercle bacillus is found in the placenta of tubercular women) and we can only ascribe to a tuberculous ancestry a predisposition to the disease or a favorable soil.

Whatever causes (and they are numerous) produce a decline from normal standard of health and depress the resisting power of man, work toward the preparation of a favorable soil and it is the cooperation of the seed and the "good soil" which results in the production of tuberculosis. In the endeavor to convert a receptive organism into a resistant one lies the whole theory of the present "hygienic dietetic treatment." The greatest source of infection is from human beings, suffering from tuberculosis, and especially the sputum from the pulmonary form. The tubercle bacilli gain access to the body through (a) the respiratory tract by inhalation; (b) the alimentary canal by ingestion; (c) and rarely the skin by inoculation.

* Read before the Daviess County Medical Society.

There is still considerable difference of opinion as to the relative frequency of the inhalation and ingestion modes of infection, but the former, the respiratory route, is generally regarded as the most frequent and hence the aerogenic source of infection is to be regarded as the most common and our prophylactic measures should be directed towards the dust which may hold in suspension the bacillus.

It must be remembered that this infected dust may also be deposited on articles of food and the germ by this means enter the body by ingestion.

In my opinion the housefly plays no insignificant part in disseminating tuberculosis. Andre has shown that flies fed on sputum from tubercular patients, evacuate considerable quantities of bacilli in their excretions, appearing six hours after the ingestion of the sputum and some are found as long as five days later.

He also found that food polluted by flies that had been fed on sputum contained infective bacilli and produced tuberculosis in guinea pigs. Once in the body the distribution of the bacilli from the original focus takes place by means of the blood and lymphatics.

Some noted phthisiologists have shown that in many cases the infection reaches the lungs through the tonsils, either from without or through the blood stream, as in acute miliary tuberculosis. When the tonsils are tubercular, the cervical glands become secondarily involved through the lymphatics coming from these organs. Again the lungs may become infected through a primary infection in the bronchial or mesenteric glands. Wherever the primary may have been or however it may have occurred, in the greater number of cases the lungs sooner or later become involved. There are many influences both psychic and physical, acting from within the body and through the environment, which predispose one to tuberculosis. Some of which are: Vicious personal habits such as overwork, underfeeding, lack of sunshine and fresh air, insufficient sleep, the abuse of alcohol and tobacco; certain previous diseases, as diabetes, pneumonia, recurrent bronchitis, measles, whooping cough, la grippe and others; unsanitary surroundings, density of population, unwholesome occupations as the dusty trades; a climate permitting limited out-door life.

The onset of pulmonary tuberculosis is often such as to mislead the physician. In some cases there is no cough but a rise of evening temperature; another type of onset is found in those cases which present pleural effusion; in some cases the earliest symptoms are laryngeal; in another type of cases the earliest symptom is the spitting of blood; a symptom in nearly all cases is loss of flesh and strength.

The extension of the inflammation to the visceral layer of the pleura causes severe pain in the chest. Sweating occurs at some time in well developed cases; sometimes dyspnea on slight exertion is a marked symptom.

It must be remembered, however, that the severity of the symptoms of all kinds varies to an extraordinary degree in different cases and at different times in the same case.

The above mentioned symptoms are complained of by the patient and can readily be observed by the physician; but in arriving at a diagnosis we may have such additional information as may be obtained from physical signs. With all the evidences heretofore mentioned, we may be mistaken or in doubt regarding the diagnosis, as such evidence might well be considered circumstantial. The microscopic finding of bacilli gives positive diagnosis, failing to find the tubercle bacillus in the sputum is not always positive evidence of the patient not having a tubercular focus. However the microscope is the most practical means of making a diagnosis of pulmonary tuberculosis. Tuberculin is claimed to give a positive reaction in nearly every case of tuberculosis. (I must admit I have had no experience with tuberculin). I have tried tuberculin ointment for Moro's test which has given satisfactory results in some cases and disappointed me in others.

Two lines of attack have been employed in the treatment of tuberculosis; first that directed towards the infection itself, the tubercle bacillus, either by means of specifics or antiseptics, or the establishment of immunity by the use of antitoxins or serum; second, that directed towards the individual to restore the normal resistance of the organisms, the so-called hygienic diatetic treatment, or open air treatment. The first method has never been a success and the future can only decide whether it ever will be; the second one has been eminently so and is the established method of the day. It is not only the natural course of treatment from the cause of the disease but abundance of experience has proven its efficacy.

Since the treatment is of the individual and not directly the disease, we should use only such means as will increase the vital powers and render them rebellious to the bacterial invasion. The ever present anemia in these patients demands the careful administration of such tonics as, iron, quinine, strychnine, and arsenic in various forms. The syrup hypophosphites has its advocates. Elixir of glycerophosphates seems beneficial in some cases. I have found the emulsion of petroleum of apparent benefit in some cases, but have found it necessary to discontinue it in others. Cod-liver oil is so nauseous that I doubt its virtue. I think that the use of creosote with

the idea that it is beneficial for pulmonary tuberculosis is based upon an utterly erroneous view of the disease, as well as the action of the drug. My observation is, that creosote tends to disturb the digestion, and anything which disturbs the digestion and assimilation of food, diminishes the vital powers of the patient and thereby diminishes his prospects of recovery. I want to go on record as believing that creosote is absolutely detrimental to tubercular patients. I caution my patients to continue to take no drug which they find interferes with their appetite or digestion. I feel quite sure that the number of unfortunate consumptives, whose struggle with this disease has been lost through disorders of digestion, arising from the injudicious administration of drugs, is not comforting to contemplate. The disturbance of digestion which inevitably arises, may be benefited by the administration of such drugs as pepsin, pancreatin, takadiastase or Hcl.

I think an occasional purge assists in eliminating the accumulated toxins. In my brief reference to the drug treatment of tuberculosis, I shall not refer to the treatment of the complications, but shall state that the complications should be judiciously met as they arise. I shall discuss the drug treatment by saying, that I sincerely believe that whenever a physician in the treatment of pulmonary tuberculosis is tempted to employ a drug, the question of its influence on the stomach and digestion should be carefully decided before the administration of the drug. Tuberculin was for a time discarded in the treatment of tuberculosis, but recently its merits have been lauded by some where judiciously administered in well selected cases. Artificial pneumothorax in treatment for pulmonary tuberculosis, has recently given some flattering results. But it is the open air and carefully selected diet which have given the most brilliant results.

My experience has been absolutely in treating tuberculosis in the private home. Too much praise can not be given the Sanatoria treatment, but I know that good results can be obtained in private homes; and this is gratifying since the majority of cases must be treated at home.

The three cardinal points to be remembered in the treatment of tuberculosis anywhere, are, pure air, food and rest, and the success in our treatment comes from the skill and persistence in their use. The open air treatment can not be carried out in the private home as we usually find them constructed, but I have found that a small investment will obtain the facilities for securing plenty of fresh air. In some instances, I have screened a porch, others used a tent, and on others built a shack with screened walls, having curtains to draw

as needed. The open air treatment consists essentially in the constant and continuous exposure of the patient to pure air. Nine-tenths of consumptives have lived comparatively an indoor life and the radical change to the outdoor life is almost appalling to them. It requires persistent and vigorous effort to keep them up to it. They are apprehensive of taking cold, they fear they have not sufficient strength to endure the exposure, but the physician must be firm and meet such statements positively. When once the outdoor habit is established, enthusiasm takes the place of fear. The sense of well-being caused by the stimulating effect of constant hyperaeration is so keen and its evidence of beneficial effect on the cough, the subsidence of expectation and fever and the improvement of appetite is usually so apparent that the patient will continue to take his open air treatment in all sorts of weather. In a time not very remote, climate was considered to be the most potent factor in the treatment of tuberculosis. With regard to the exact place, climate should hold in the therapy of tuberculosis, there exists a variety of opinions. One extreme values climate as a means of obtaining fresh air, the other extreme looks upon climate as a fundamental principle in the treatment. I feel quite sure that the beneficial results of climate have been overestimated and that by some too much stress is now placed on climate.

Accepting the fact that tuberculosis in its curable stage is susceptible of arrest or cure in almost any climate, where pure air is obtainable, I consider that climate is beneficial to the extent that it permits the application of the open air treatment.

It has been wisely said that proper nourishment is the foundation and the cornerstone of tubercular treatment. No change of climate nor the open air life, will bring success in the treatment unless the nourishment of the patient is such that the past loss be made up and the body weight gained. It is a fixed fact that the consumptive who can not or will not take a liberal amount of nutritious food is doomed to die. While it is very essential to feed in liberal amounts, I think we can make the mistake of overfeeding. I feel quite sure that most all consumptives, if encouraged to do so, can and will take more food than individuals in health. Also I know that I have seen my patients suffer the ill effects of overfeeding and have seen the digestive disturbances disappear and the appetite return only when the food had been reduced in quantity.

Each patient is a law unto himself and so it is we can establish any fixed quantity of diet. We should feed just that quantity of food as is digested and assimilated! Any ex-

cess beyond this only weakens the powers of digestion, and assimilation and interferes with normal functional activity, by an excess of excretory products.

What to eat is to some extent a mooted question. But the experience of the most competent men is that each patient is a law unto himself in this respect also. It is generally accepted that the diet of meat, milk and eggs is the most wholesome and nutritious but an effort to give these articles exclusively is likely to fail, from the same fact that an individual in health would rebel against the same articles of food given at each meal for consecutive days. While meat, eggs and milk are the principle articles of diet, I am sure the patient can consume more of these in the given time of treatment by adding judiciously a variety of well-cooked and appetizing foods, consisting of vegetables, bread, butter, cereals, cheese, nuts, fruits. Of course, meals should begin at exact times of the day, but the frequency of the feeding will necessarily vary with the patient.

In the treatment of pulmonary tuberculosis, it is now agreed that rest is very beneficial. Cases running fever should be kept at rest. In the afebrile cases, much rest is also insisted upon, in cases with low vitality and those who have lost much flesh. I think it wise to put all patients to rest for first few weeks. What is the treatment for local tubercular infections, such as hip-joint and Potts' disease? The answer is rest. So it is, the diseased lung should be put to rest so far as it can be.

When one of the lungs is affected with tuberculosis, even if the disease is limited to the apex, the movement of the diaphragm on the affected side is diminished; and again when the lung becomes tuberculous, adhesions are formed in many cases between the lung and the pleura.

By these means, nature is immobilizing, apparently applying a splint and securing rest of the diseased part, just the same as we do in the treatment of hip-joint and Potts' disease. Since the primary effort of nature is to secure rest of the diseased part, we must necessarily do all we can to assist nature, by demanding rest of our patients, especially during the progressive stage of the disease. In no other common disease, is it so much in the power of the physician to render service to the human family as in the prevention and treatment of tuberculosis. At the beginning certain general facts must be recognized as governing principles in the management of the disease.

1st. That there is no specific remedy for tuberculosis as yet known.

2nd. That there is no antiseptic which materially influences the local infection.

3rd. That the whole treatment is an indirect one—a treatment of the individual and not the disease consequently the treatment must be strenuous and an exacting one, both on the part of the physician and the patient.

No single element, says Cornet, neither air, food, hydrotherapy, nor medicine promises us any prospect of success; only the combined fulfillment of all the physiologic and hygienic conditions of life to the smallest detail, gives us a prospect of success. In order to secure the cooperation of the patient he must be truthfully told of his condition, and its dangers as well as the hopeless outlook from treatment if he disobeys his physician. The personality of the physician counts for more in the treatment of this disease than any other. Firmness, tact, kindness, patience, insistence and cheerfulness are qualities of supreme importance in the physician who shall treat pulmonary tuberculosis with the highest measure of success.

When we realize that 15% of the tombstones in our cemeteries, stand monumental to the ravages of tuberculosis, we readily see we are confronted every hour with an enemy more treacherous and destructive than war. The realization that tuberculosis, the most prevalent disease, is preventable and curable, should arouse every man in the medical profession to his responsibility and duty in the warfare against this, the most disastrous of all diseases.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

REFORM IN MEDICINES.

RADIOACTIVE SUBSTANCES IN THERAPY.—From a discussion on the therapeutic value of radioactive preparations at the German Congress of Internal Medicine in April of this year, the conclusion seems to be justified that very large doses of the emanations or of the thorium X solutions are necessary to secure therapeutic results and in these cases the therapeutic results appear to be separated from the toxic action by a very narrow margin. It is evident, therefore, that the use of these substances is still in the experimental stage, that little if any effect is to be expected from preparations on the market, especially as they contain only extremely minute doses which, although probably safe, are probably also worthless.

MEDICAL MEETINGS AS ADVERTISING MEDIUMS.—The promotion of a proprietary nostrum by means of papers read before a medical meeting has gone out of vogue in this country. But while conditions have improved here, they seem to have grown worse in Germany. Now, however, it appears that a halt will be called before long. Recently Dr. Bernheim, of Paris, who is much interested in the exploitation of a new "consumption cure" read a paper before the German Congress for Internal Medicine. Later this paper was reprinted and distributed by the promoters of dioradin. Included with this reprint were testimonials which originally were not a part of the paper. The reprint bore the imprint "German Congress for Internal Medicine" and thus the society was made to lend official sanction to the testimonials. In view of this a protest has been issued by the presiding officer, Professor Penzoldt. This protest is evidence that the German medical profession is awakened to the wretched conditions which have developed in that country in connection with the exploitation of proprietary medicines.—*Jour. A. M. A.* Aug. 17, 1912, p. 549.

AN OPPORTUNITY FOR THE PHARMACIST.—Although the pharmacist can do much toward the advance of medicine and also toward the improvement of the public health, his commercial tendencies have to a large extent made him lose sight of his opportunity. While, in particular, the tendencies of the National Association of Retail Druggists towards the perpetuation and extension of the patent medicine and the nostrum business have not been a credit to pharmacy, *N. A. R. D. Notes*, the official organ of the N. A. R. D. has start-

ed a public health propaganda department in which the druggist is urged to protect the public by giving advice as to the seriousness of various disease and the need of their treatment by trained physicians. When it is considered that a large number of people go to their druggist for advice or treatment for ailments of all kinds, the opportunity which is in the hands of the pharmacist will be appreciated.—*Jour. A. M. A.*, Aug. 17, 1912, p. 560.

MARJORIE HAMILTON OBESITY CURE AFTERMATH.—Following the exposure of the Marjorie Hamilton Obesity Cure, *Jour. A. M. A.* March 16, 1912, p. 798) the United States postal authorities took a hand and on June 7, 1912, W. C. Cunningham and his wife, Marjorie Hamilton Cunningham, were indicted by the federal grand jury and placed under arrest for fraudulent use of the mails. Although, since the Marjorie Hamilton business was exposed, Cunningham has branched out into a new mail order fake line, a "quick wrinkle remover" introduced by "Princess Tokio" the Denver papers now announce that he will withdraw from business and confine himself to the European field—where frauds of this sort are less liable to be molested.—*Jour. A. M. A.*, Aug. 17, 1912, p. 561.

TYREE'S ANTISEPTIC POWDER.—For years Tyree's Antiseptic Powder was advertised to the medical profession with claims that were unwarranted as to both composition and therapeutic effect. Analyses show that the preparation was essentially nothing but a simple mixture of sulphate of zinc and boric acid. The medical profession having prescribed the nostrum, the original package scheme did the rest and now Tyree's Antiseptic Powder goes to the public direct. It is now advertised in newspapers as "Ideal for douche," "Best preventative known," etc. That a nostrum of this sort should go to the public is not surprising but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians. That the exploiters of this nostrum no longer find it profitable to use medical journals as a means of needs use the more expensive newspaper advertising, is cause for optimism. It means that physicians are no longer prescribing indiscriminately, proprietary products and that they are refusing to be, what they have been in the past, the unpaid distributing agents for nostrum venders.—*Jour. A. M. A.*, Aug. 24, 1912, p. 666.

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BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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EDITORIAL

THE REPORT.

The long expected report of the State Inspector and Examiner as to the affairs of the State Board of Health, which is simply a continuation of the Herrington fight of last winter, has been published. From a more or less cursory perusal of the forty-three pages of the report we would gather that the Inspector does not cordially commend the work of the Board. We feel sure that it will always be a matter of great regret to the distinguished members of the State Board of Health, many of whom have long since been numbered among Kentucky's honored dead, that this young Moses did not become of age in 1878 so that he might have been its law-giver in the years of travail and poverty during which it really needed one. Fortunately for the health of the people, however, during that trying period it was guided by constructive rather than destructive statesmen and public officials. Through all these years it has had the special approval of Governors James B. McCreary, Luke P. Blackburn, J. Procter Knott, Simon Bolivar Buckner, John Young Brown, W. O. Bradley, J. C. W. Beckham, and not a dollar of its appropriations could ever have been drawn without the explicit official approval of the long line of distinguished auditors from General Fayette Hewitt to Henry M. Bosworth. The State Board of Health has very wisely ordered the full report published in its *Bulletin* and widely distributed among the citizens of the State. As the *Bulletin* reaches every subscriber of the JOURNAL it will save us the necessity for publishing it, and we feel sure that we are violating no confidence when we state that its publication will carry the refutation of every material statement with it.

It is only necessary for us to say that the

State Inspector and Examiner was only in the offices of the Board for an hour, and never saw the Bacteriological and Hookworm Laboratories, which he recommends to be placed in the same room with the Water Analysis Laboratory because it could thus be conducted more economically!

That the report has been approved by some advertising quacks in Louisville, who are being prosecuted under the Medical Practice Act, and by the late Mr. Herrington, et al., of Madison County, will carry sufficient condemnation to the informed profession of Kentucky to obviate the necessity for much other proof. We feel sure that the State Board of Health has the confidence and support of every patriotic Kentuckian, and we are not entirely certain but that one of the strongest points in its favor is the enemies it has made.

THE LOUISVILLE MEETING.

It hardly seems possible that another meeting of the State Medical Association can ever be held under more favorable auspices or more successfully than the recently adjourned one in Louisville. The attendance breaks our record but this was the smallest element in the success of the meeting. An excellent scientific program had been arranged and while it was too crowded to enable the membership to enjoy the usual amount of discussions, which is such an important part of the scientific work, it was so splendidly managed by our able President, that one was hardly aware that it was hurried at all. The scientific and commercial exhibits were far the best we have ever had. We feel that we are not exaggerating when we say that every physician who failed to see the exhibit of Dr. Martin H. Fischer, of Cincinnati, on Experimental Nephritis and that of Dr. J. H. Hendren, of Cary, on Pellagra, missed a post-graduate

course of the highest practical value. As equally noteworthy, were the exhibits of Drs. Vernon Robins and Leo Bloch, of Louisville, on Cerebro-Spinal Meningitis and a pathological exhibit by Dr. Leon K. Bakdauf, of the University of Louisville.

The Committee had a difficult task in deciding which one of the commercial exhibits was of the highest educational value to the general practitioner, but after much deliberation, finally awarded the prize to H. M. Alexander & Company, of Marietta, Pennsylvania, for an exhibit of antitoxins.

The banquet was splendid. The food was both excellent and hot and the fact that it was served simultaneously to more than five-hundred physicians, was a credit not only to the Committee which arranged it, but to the Messrs. Seelbach, who managed it. The annual oration, delivered by the President-Elect of the American Medical Association, Dr. J. A. Witherspoon, of Nashville, was all that could be expected from this able and scholarly physician. Especially noteworthy, was the splendid effect on everybody present of holding the meeting in the magnificent temple, of which Dr. E. L. Powell, is the worthy pastor. The symposium on "Health," arranged through the efforts of Dr. Heizer, and that on "Pellagra," by Dr. Sprague, were surpassingly interesting. To any but the most careful observer this meeting would seem to be the highest mark of medical organization in Kentucky, with more than one-third of the active physicians in the State present. We may possibly never exceed the proportional attendance, but it is important that in this glorification we all pause to remember that medical organization has not accomplished its purpose until every portion of every county, however remote, has access to a thoroughly competent physician, who can tell its people not only how to get well from disease but how to escape from all that large class which we now know is preventable.

ENFORCING THE MEDICAL PRACTICE LAW.

The quacks and illegal practitioners of medicine have been taking great joy to themselves because of a recent decision of the State Inspector and Examiner that the State Board of Health could not use any of its funds for the employment of attorneys in the prosecution of offenders against the Medical Practice Act. Their joy will be short-lived, however, as the Kentucky State Medical Association, at its recent annual session, unanimously appropriated an amount not to exceed \$750.00, to be used by its Council in cooperation with the State Board of Health in the enforcement of the law. Contracts have already been made

whereby evidence has been secured against several notorious offenders, who have recently come into the State and we feel sure that the entire profession of Kentucky will be glad to uphold the efforts of the Council to enforce this law, which is second to none for its beneficent effect in protecting those of our people who are sick or afflicted from such vampires as prey upon them in other states. This use of the funds of the Kentucky State Medical Association will, we trust, be temporary, as all the officials concerned have agreed to assist in securing such a modification of the law by the next General Assembly as will enable us to continue our work without any technical violation of the rulings of the subordinate officials in Frankfort.

SALE OF OPIUM BY PHYSICIANS PROHIBITED.

We are publishing as a part of this editorial a letter from the State Board of Pharmacy, which is self-explanatory. We are sure it is only necessary to call the attention of the profession to this matter to stop the abuse, about which Dr. Gayle complains. THE JOURNAL trusts it will not be necessary to prosecute any Kentucky physicians for violation of law which we all helped to put on the statute book.

DEAR DOCTOR McCORMACK:

Among the most serious of a multitude of difficulties which this Board is having in the enforcement of the law passed by the last legislature prohibiting the sale of opium, its derivatives or their salts, except upon the original prescription of the physician, is one which you can no doubt do much to eliminate, viz.: the tendency upon the part of a good many physicians to supply the public with these drugs when the druggist has refused to furnish them.

This tendency, amounting in many instances to an actual custom, is probably due largely to some confusion in the minds of certain physicians as to their rights under the law, and who fail to discriminate between the act of dispensing drugs to his own patients (a right which no one would attempt to deny or desire to interfere with), and the practice of supplying a drug to the public (a practice which no one can defend).

Time and time again have our inspector and his workers—total strangers—purchased in the physician's office morphine and other drugs by simply asking for them, and under conditions and circumstances which could in no way uphold the physician in the contention that he was acting within his right to dispense drugs to his own patients.

Another thing we have found which is, if possible, more pernicious. A number of phy-

sicians have been detected apparently making a business of indiscriminately writing prescriptions for cocaine in quantities to suit the applicant—always an habitual user—charging for this service sums ranging from 25 to 50 cents! Of course druggists can always be found sufficiently devoid of the sense of moral obligation to unhesitatingly fill such prescriptions.

The laws controlling and regulating the sale of the habit-forming drugs cannot be made effective except through the united and co-operative efforts of the pharmacist and the physician. Will you not use your influence through your JOURNAL, and otherwise in bringing this about?

Very truly,
J. W. GAYLE, Secretary.

THE DISTRIBUTION OF BIOLOGICAL PRODUCTS UNDER THE DIRECTION OF THE KENTUCKY STATE BOARD OF HEALTH.

The physicians of the State are reminded that antitoxins, bacterins, vaccines and emulsive serums, which may be required for the treatment of indigent persons, can be secured at the expense of the several counties in the State. The local boards of health with the consent of their county judge have power under the law to spend money for this purpose.

In order to make readily available to the Health Officers in all sections of the State a complete and reliable line of biological products, at best Board of Health prices, the State Board of Health has made special arrangements with H. K. Mulford Company, Philadelphia, for the distribution of their well-known and standard line. These biologicals are dispensed under special Board of Health label, and a supply is carried in the office of the State Board of Health at all times.

Requests for material should therefore be sent to the State Bacteriologist, State Board of Health, Bowling Green, Ky. Later the Board of Health reports to the H. K. Mulford Company the amount of goods dispensed and the H. K. Mulford Company sends a bill and collects for the same direct. Owing to the very special prices extended, it is understood that prompt payment is required.

Following is a list of the more important biological products, together with their indicated use, and the special prices at which they will be furnished to the local health officials of Kentucky, for the treatment of indigent persons, as provided by this special arrangement.

TETANUS ANTITOXIN (HUMAN).

Each dose in an aseptic, glass syringe, ready for immediate injection,
1500 units (immunizing dose)...\$1.50

3000 units (therapeutic dose)... 2.55
5000 units (therapeutic dose)... 3.60

ANTI-DYSENTERIC SERUM.

For summer diarrhea and dysentery
In syringes of 10 c.c. each,\$1.20

ANTI-MENINGITIS SERUM (HUMAN).

In packages containing two syringes of 15 c.c. each, including special needle for intraspinal injection,

Per package\$3.00

ANTI-STREPTOCOCCIC SERUM.

In syringes of 10 c.c. each\$.90

In packages containing 2 syringes of 10 c.c. each, per package.... 1.80

RABIES VACCINE (PASTEUR METHOD).

Per complete treatment of 25 doses, including outfit, so that new sterile syringe and needle can be used for injection of each dose\$35.00

SMALL-POX VACCINE VIRUS (GLYCERINIZED).

Glass points or capillary tubes,
per case of 10 vaccinations\$.65

COLI-BACTERIN.

Indications: Cystitis; fistula in ano; catarrhal jaundice; local infections caused by bacillus coli. Furnished in aseptic, glass syringes as follows:

Syringe A contains 50 million killed bacteria,
Syringe B contains 100 million killed bacteria,
Syringe C contains 200 million killed bacteria,
Syringe D contains 400 million killed bacteria,
Per package of 4 syringes, A, B,

C, D, as above\$1.20

MENINGO-BACTERIN.

Indications: For immunization against spinal meningitis. Furnished in aseptic, glass syringes as follows:

First dose contains 500 million killed bacteria,
Second dose contains 1000 million killed bac.
Third dose contains 1000 million killed bac.

Per package containing 3 syringes as above, comprising one complete immunization\$.90

Board of Health size package containing 30 doses, in separate ampuls, comprising ten complete immunizations 2.10

NEISSER-BACTERIN MIXED.

Furnished in aseptic glass syringes as follows:

Each syringe contains	A	B	C	D
Etaphylococcus aureus	100	200	400	800 mil.
Staphylococcus aureus	100	200	400	800 mil.
Streptococci	50	100	200	400 mil.
B. coli	50	100	200	400 mil.
Pseudo-Diphtheria	50	100	200	400 mil.
Gonococci	50	100	200	400 mil.

Per package of 4 syringes, as above\$1.20

SCARLATINA-BACTERIN (IMMUNIZING).

Indications: For immunizing against scarlet fever. Furnished in aseptic, glass syringes as follows:

First dose contains 250 million killed streptococci,

Second dose contains 500 million killed streptococci,

Third dose contains 1000 million killed streptococci.

Per package of 3 syringes, comprising one complete immunization\$.90

STAPHYLO-BACTERIN.

Indications: Furunculosis, acute and chronic; acne; sycosis. Furnished in aseptic, glass syringes as follows:

Syringe A contains 250 million killed bacteria,

Syringe B contains 500 million killed bacteria,

Syringe C contains 1000 million killed bac.

Syringe D contains 2000 million killed bac.

Per package of 4 syringes, A. B.

C, D, as above\$1.20

STAPHYLO-ACNE-BACTERIN.

Indications: Acute and chronic acne caused by mixed infection. Furnished in aseptic, glass syringes as follows:

Each syr. contains A B C D
Staphylococci250 500 1000 2000 mil.
Acne bacilli..... 25 50 100 200 mil.

Per package of 4 syringes, A. B.

C, D, as above\$1.20

STAPHYLO-BACTERIN MIXED.

Indications: Mixed infections, as fistulous sinuses, etc. Useful for immunization before abdominal operations. Furnished in aseptic, glass syringes as follows:

Each syringe contains A B C D
Staphylococci 25 50 100 200 mil.
Staphylococci100 200 400 800 mil.

B. coli 50 100 200 400 mil.

Per package of 4 syringes, A. B.

C, D, as above\$1.20

TYPHO-BACTERIN (IMMUNIZING).

Indications: For immunization against typhoid fever. Furnished in aseptic, glass syringes as follows:

First dose contains 500 million killed bacteria.

Second dose contains 1000 million killed bac.

Third dose contains 1000 million killed bac.

Per package of 3 syringes, comprising one complete immunization\$.90

Board of Health size package containing 30 doses, in separate ampuls, or 10 complete immunizations 2.10

TYPHO-BACTERIN MIXED.

Indications: For immunization against typhoid fever and conditions diagnosed as typhoid but caused by the paratyphoid bacilli

(*Bacillus typhosus*, *bacillus para-typhosus* "A" and *bacillus paratyphosus* "B"). Furnished in aseptic, glass syringes as follows:

	Syringe	1	2	3
<i>Bacillus typhosus</i>		500	1000	1000 mil.
B. Paratyphosus "A".....		250	500	500 mil.
B. Paratyphosus "B".....		250	500	500 mil.

Per package of 3 syringes, as above, comprising one complete immunization\$.90

Board of Health size package containing 30 doses in separate ampuls, or 10 complete immunizations 2.10

GENIUS AND HAIR COLOR.

Chas. Kassel, in the *Popular Science Monthly*, for September, propounds to himself and investigates the question as to whether there is any relation between those wonderful individuals we call geniuses and the color of their hair. We are all interested in hair, some because of the desire to preserve the suprabundance that they have, others because of the mournful lack of it, and the need of a teepee. Hair is a remnant of the coarse fur that once covered the body of the human animal, which in the long course of evolution has withdrawn at last, after a losing battle with time, to its invincible retreat and stronghold, upon the head. "This relic of beast life grew with the process of the sun, into a thing of use and meaning, a mark of race, an emblem of rank, a symbol of religion, and lastly, but chief of all, into an adornment of surpassing beauty, affording to cupid, a most potent weapon in his merry warfare against the sons and daughters of men." Kassel reviews the place of hair in the religious life of the race; among the Greeks and Romans, it was worn until the fourteenth year, then severed and dedicated to the River God. He notes that in the Roman Catholic and Hindu Churches, throughout all the ancient world, the tonsor in one form or another was a sacred right, true like, of the vestal virgin, Roman Catholic Nuns and Monks, etc.

Fancy has sought to attach to it deeper meanings, thus in all ages stiff and wiry hair has been deemed a sign of dishonesty or low birth, while softly clustering curls, we have ever been prone to associate with gentleness and innocence. Characteristics of the hair in all forms, one of the leading tests of nationality, but there is a fairly well marked difference between the hair of the lower and that of the higher races; thus, black, straight and closely spiral formed hair, usually marked

people low in the scale of intelligence, while among the loftier races, straw colored, chestnut hair, are usually found. In the coarseness of the hair, the lower peoples probably betray their greater nearness in point of development to the animal ancestor of man, since the crowning hair of the Anthropoid brute, the Chimpanzee, Gorilla, etc., is stiff and bristly, generally of a reddish tinge. Among these brutes, no instances of fair hair or blue or gray eyes is known. In nearly all countries, popular snipersation has looked askance at red hair; yellow hair has been conspicuous with talent or deep character, brown or chestnut hair, constancy of purpose, autumn and golden, where the hair is soft, is linked in folk-lore with great steadiness of purpose, and unfaltering loyalty in love. Black hair is greatest among criminals, says Havelock Ellis, although the beards of criminals are usually scanty, while Morro has observed a considerable proportion of woolly haired criminals. Criminal women usually have a remarkable abundance of hair, and it often forms their most characteristic physical feature, accompanied by an unusual development of fine hair on the face and body. The structure of the hair is most interesting among men of genius. The poet's ringlets seemed to represent a distinct fact in biography, and are of marked softness, but fullness seems likewise a frequent accompaniment of artistic and literary genius, the abundant hair of musicians as observed upon the concert platform, will in this connection suggest itself to the reader. The author concludes as follows. "Beyond this, it may be safe, so far to generalize as to hair color that individuals of artistic or literary genius in general possess wavy or curly hair, and that even in a case of genius, it is not amiss to look for the coarse organization where the hair is coarse and stiff. If, moreover, our data may be relied upon, red and yellow hair rarely accompany genius." Kassel has been making some interesting studies of genius, and he well remarks "it is now time that more men should be studying as a part of social evolution, and that methods of exact and statistical science, just as this is being done as regards the criminal, and assuredly genius has no lesser claim upon the time and talents of our workers.

CURRAN POPE.

SCIENTIFIC EDITORIALS.

DESTRUCTION OF BLADDER TUMORS BY THE OUDIN, OR HIGH-FREQUENCY CURRENT.

(FULGERATION).

According to statistics, radical surgery saves life in at least 20% of the patients with benign growths, and in 4 to 6% of the patients with malignant neoplasms.

Benign tumors kill by repeated hemorrhages, producing profound anaemia, which so rapidly reduces the patient's vitality; this accompanied by secondary conditions, such as cystitis, renal infection and sepsis. And when the growth becomes malignant, which is never known—as Alberran has expressed it "all vesical tumors are malignant or, are likely to become so."

Surgery offers four types of radical operations, namely:

I. *Intra-vesical excision.* (Only applicable to small papillomata). Nitze claims admirable results through his operating cystoscope in eighty cases. No operative deaths. Seven recoveries.

II. *Excision, after cystotomy.*

III. *Resection of the bladder.* (Necessary in every sessile and infiltrating growth of the bladder-wall).

IV. *Total extirpation of the bladder.*

Fulgeration has been used by many dermatologists for the destruction of skin-growths for a number of years. Edwin Beer of New York was the first to conceive the idea of applying this method of treatment to growths within the urinary bladder, but he was baffled when told by expert electrical manufacturers that it was impossible to obtain results with high-frequency currents through a water medium; as an air-gap was absolutely necessary. His experimental work was confined to the removal of skin-warts through a water medium, and he was soon convinced of the efficacy of its therapeutic value—despite the absence of an air-gap.

Early in 1910 Beer reported his results in two cases of bladder tumors treated with the Oudin, or single pole high-frequency current. Then Edward Keyes, Jr., reports five cases in *American Journal of Surgery*, July, 1910, treated with high-frequency current, but with the D'Arsonval, or double pole. Later, Keyes reports twelve cases treated with the Oudin current, and frankly admits its superior efficacy to the D'Arsonval current.—(*Inter-State Medical Journal*, Oct. 1911).

Within the last two years, many prominent European and American urologists have given the fulgeration method a fair trial, and report most favorably; some including multiple and

extensive growths which were thought to be inoperable.

While in Chicago last September, I saw a case of multiple papilloma of the bladder under fulguration treatment by L. W. Bremerman. At this stage there were only a few remaining growths, and many scars were plainly visible on the vesical mucosa, showing where papillomata had been removed. Dr. Bremerman told me that when he first saw the patient, almost the entire bladder-wall was covered with papillary excrescences, and that a radical operation, almost amounting to a total cystectomy.

The case that I shall report is as follows:

Mrs. B., aged 36. Bladder symptoms four years, with frequent attacks of haematuria. She returned from the hospital a few weeks previously, where she had undergone a curettement for her trouble. She was weak, anaemic and septic; much fatigued by frequent and painful urination, and was compelled to lie flat of her back during each effort of voiding, as she claimed there was "a something" that would press against the bladder-neck and completely block the urinary passage, if she attempted to void her urine in the sitting posture. The urine was foul, putrid and very offensive.

CYSTOSCOPY.

Bladder capacity, 4 ounces. Bladder contained much putrid and necrotic debris, and only by prolonged flushing could I get the bladder clear enough for a satisfactory examination. However, the cystoscope was introduced, and owing to the cloudy medium, all that could be seen, were masses of phosphatic debris apparently clinging to the bladder wall, and one large mass supposed to be a calculus. The trigone looked eroded and slimy, with some evidence of ulceration.

The bladder was subsequently irrigated for several days with a solution of salicylic acid 1 to 3000, followed immediately with an instillation of one ounce of 20% gomenol oil. The salicylic acid was used to dissolve the phosphatic elements, and to neutralize this putrid alkaline urine; the oil was used for its antiseptic properties, and to soothe the highly inflamed bladder and to facilitate the passing of this grit and sand.

CYSTOSCOPY.

Bladder capacity 6 ounces. This supposed calculus proved to be a phosphatic-capped papilloma. It was elongated, fan-shaped, and attached by a small pedicle, one-half inch anterior to the left ureteral orifice. Clinging to it was a coating of sand, and evidently this growth had been rolling and grinding the trigone causing the excoriation and ulceration, during its effort to block the urethral outlet.

After considering the size and character of

the growth, with its slender pedicle, and mode of attachment, I decided to try fulguration.

TECHNIQUE.

Bladder thoroughly irrigated and filled with sterile water. A direct catheterizing cystoscope introduced; and through one channel was passed a long insulated copper electrode, No 7F., which resembled a ureteral catheter in size and length; the other channel of the cystoscope being capped to prevent any leaking. This electrode being cut off square at the vesical end, while the other end was connected with a Wappler high-frequency machine—the spark-gap in the muffler being set at approximately one-tenth of an inch, and current was thrown into the bladder by means of a foot-switch. The current which lighted the cystoscope was from an eight-cell storage battery; my reason for this was to eliminate any possibility of a short-circuit.

The electrode was advanced and gently pushed against the pedicle, down close to the base of tumor. The current was turned on and continued for thirty seconds. I could readily see the blanching of tissue, accompanied by considerable bubbling of gas—but no sparking could be seen. The current was now turned off for about one minute to allow cooling of the electrode, and prevent the burning of the rubber insulation. The current was again turned on, and the seance lasting for another thirty seconds, which completed the first fulguration.

My patient withstood the ordeal without even a local anesthetic, however she was somewhat fretful and nervous, but did not complain of any pain. A great amount of pain can be produced by having a wide spark-gap, or carelessly allowing the electrode to come in contact with the bladder-wall.

The patient was advised to return to the office in about ten days for another fulguration—but much to my surprise, just before the expiration of the ten days, the husband called me hurriedly over the phone one morning, saying that his wife was passing something from her bladder that looked like a piece of flesh. Soon the husband arrived at my office, bringing the specimen. The tumor measured two and one-half inches in length, one inch in width, and fully three eighths of an inch thick; it was fan-shaped, with somewhat of a suggestion of bifurcation, and partially covered with phosphatic sand; the pedicle was smooth, round and slender, and about the size of a No. 10F bougie. The stump of the pedicle was charred, or carbonized, showing effects of the electrical burn.

Within ten days the bladder had completely cleared up and all symptoms subsided; the urine clear and patient could sleep all night

with comfort, for the first time in nearly four years.

Cystoscopy a month later showed a normal bladder, with the exception of some slight evidence of the stump remaining—this was destroyed by the ouidin current.

Cystoscopy: Five months later; Bladder capacity, comfortable with ten ounces. No evidence of tumor, and only a small scar visible. Entire bladder mucosa normal.

CARL LEWIS WHEELER.

ORIGINAL ARTICLES

INFANT MORTALITY—ITS CAUSES AND PREVENTION.*

By HENRY ENOS TULEY, Louisville.

Both the profession and the public are awakening to the appalling infant mortality, which for years has gone practically unnoticed. Through ignorance of conditions this slaughter of the innocents has been possible and no efforts have been made to save them to society.

There are so many causes entering into the heavy mortality among infants under five years of age that time will not permit a thorough description of them all in this paper, but I hope that a free discussion of it may bring out all the omitted points with emphasis.

The unpreparedness with which the average graduate in medicine enters upon the practice of midwifery is responsible, I am sure, for the early death or invalidism of many infants which come under his care. I feel that I know whereof I speak on this subject, having taught obstetrics for a number of years. It was always with a feeling of dissatisfaction with existing conditions, which made it impossible to give a more thorough and comprehensive course of instruction at the bedside to the fourth year medical student. This should not only include observations in the progress of the normal puerperium, but instruction in the physiology of the first days of infant life. For the most part the practical experience of the medical graduate consists in viewing from the benches the delivery of two or three women, not seeing these patients or their babies again. A few enterprising ones among the graduating class may care for some of the pauper out-patients in their homes, but they lose much of value in the conduct and care of the case because they have no bedside instruction. Until these conditions are changed and more attention paid to giving practical bedside instruction in obstetrics and pediatrics the average graduate

in medicine will be but little better prepared than the experienced midwife. There are but few specialists in obstetrics, the vast majority of women must be delivered by the general practitioner, hence he should be well trained not only in obstetrics but also in pediatrics, the latter I consider of fully as much importance as the former.

The study of pediatrics should include a thorough course upon the prenatal conditions which might possibly influence the strength of the child after birth. Conditions in the mother which might cause an unusually prolonged labor should also be studied, the proper significance of the fetal heart sounds, and other signs of impending fetal asphyxia, intelligence displayed in the care of the persistent occiput posterior positions, breech and transverse presentations, the more frequent employment of pelvimetry for recognition of pelvic deformities, placenta previa, the indications for and the scientific application of forceps, and when a version or Caesarean section should be advocated.

After birth, too little attention is paid to the infant, exposure is allowed, inspiration atelectasis occurs by failure to extract mucus from the naso-pharynx, the cord is tied too quickly, thus depriving the child of its full share of blood; the eyes are neglected; and it is casually handed to the nurse or an ignorant member of the family without further consideration. By failure to properly supervise the early attentions to the child which include protection from exposure, bathing and care of the navel, pneumonia and infections both general and gastro-intestinal may occur.

In other words, by giving exclusive attention to the mother in this period, equally critical to both mother and child, infantile mortality is begun, which soon adds its store to the sum total of infant mortality.

A study of statistics as related to infantile mortality is of interest, as it proves the above statements. As far back as 1893 it was shown by Eross by studying the statistics of sixteen large European cities and including 1,439,056 children, that ten per cent. of the children born alive die within the first four weeks of life. This mortality was greatest on the first day and diminished each day as the child grew older. Further, congenital debility is given as a cause of deaths in 54 per cent. of infants which died within four weeks after birth. Prof. Irving Fisher in a report to the National Conservation Commission, states that in a series of 100 cases of premature births, 40 were preventable; of 100 children dying of congenital debility 40 might have been saved, and of 100 children dying of venereal diseases 70 might have been saved. These are startling figures and point to the importance of the better training of the gen-

*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

eral practitioner in pediatrics both prenatal and immediately after birth. Davis* in a recent article calls attention to a few of the potent causes of premature birth and death. Direct violence and physical strains to which the poor are subjected in lifting the proverbial coal bucket and in active exercise in domestic work, especially over the wash tub. Manufacture work by pregnant women in badly ventilated buildings, amid poisonous fumes and with machinery which constantly racks and jars the operator is a frequent cause of miscarriage and premature birth. Time will not permit the consideration in detail of the many maternal and fetal causes of this slaughter which could be diminished greatly by intelligence and skill.

The question of feeding the newborn and infant is paramount in a discussion of this subject. More cases of atrepsia, malnutrition, and acute gastro intestinal disturbances with a fatal ending have their origin in an improper diet during the first few weeks of life, than from any other cause. I do not believe there are as many mothers who wilfully discontinue nursing too early or refuse to put their babies to the breast, as some would lead us to think. It is difficult to believe that any mother who is capable of doing so would refuse to nurse her infant after the dangers of artificial feeding have been carefully explained to her.

There are cases which do not seem to thrive upon the breast, or where from the slow appearance of the milk the infant loses so much ground, that even after the milk comes a normal gain is very slow, or the child so reduced as to be greatly jeopardized. Owing to the infrequency with which the infant's temperature is taken, during the first few days, or more than a casual glance given it by the attending physician, starvation temperature is not recognized and valuable time is lost by the policy of doing nothing or waiting developments. The judicious administration of several feedings of a properly modified milk at this time will save much suffering and start the baby off properly when nature supplies the proper amount of breast milk. I would not be misunderstood as advocating the artificial feeding of all infants during the first week. It is the exception that this is indicated, but the intelligent recognition of the cases in which it is needed will save many babies.

In spite of opinions to the contrary, I am convinced that the proper interpretation of the infant's weight curve will do much toward saving babies and preventing their becoming so attenuated and reduced as to easily be a victim of any intercurrent infection or gastro-intestinal disturbance. I have had under observation during the past few years,

several such cases. These babies were bright, happy and contented, bowels for the most part normal and regular. Because of these facts they were not weighed for a number of weeks, only to find when weighed, that they had not gained. It was with difficulty in all of these cases, that the proper adaptation of their food could be made to meet the demand of nutrition and cause a proper gain in weight. Any illness in a child of this kind is very poorly borne, this being especially true of the acute exanthemata, pertussis, pneumonia and the gastro-intestinal disorders. I do not plead for the universal adoption of the finer mathematical formulæ in milk modification or adaptation, but do advocate a more serious and careful study of the subject by the general practitioner. By learning to think in percentages of milk and milk mixtures far better results will be obtained in those unfortunate infants deprived of a nourishing breast milk early in life, and must of necessity be put upon an artificial food. Just here I wish to go on record as advocating an adapted or modified cow's milk for artificial feeding to the entire exclusion of all artificial or prepared foods on the market. Some of these may have some place in the very temporary feeding of infants, but they are all found wanting as a continuous food, and are the cause of many nutritional disorders leading finally to serious morbidity or even a fatality.

It is a sad commentary upon the medical profession that so many of the newer organizations looking to social uplift of the people are controlled to a great extent by the laity and have but few physicians actively interested, their policies being dictated almost entirely by the laity. Physicians should recognize the intimate relation between social conditions and diseases, and the fact that this is more true of infants and children than with adults.

The community plan of caring for infant welfare is productive of the greatest good in the reduction of infant mortality. Wilbur Phillips has estimated the average cost of caring by preventive methods for the health of one baby for one year is \$6.00, and the average cost to parents in Milwaukee to rear babies to the average age to which they die (about four months) of paying for confinement, for baby carriages, doctor's bills, etc., is \$120.00. He estimated then that saving the death of one baby would pay the community for providing medical and nursing supervision for twenty babies for an entire year. By establishing stations in the localities where statistics show the greatest morbidity and mortality to be, which would be a center for dispensing clean cold milk, for caring for the mothers of all babies in the district, provid-

*Jahrb. f. Kinderheilkunde, 1902, xxxv., p. 9.

ing medical and nursing service, to be paid for by the city, many babies will be saved to society and a great financial saving brought about to the community.

This has been proven in Louisville through the efficient work of the Babies' Milk Fund Association, it having been estimated by the City Health Department that the infant mortality during the past year has been reduced fully fifty per cent. through this agency alone.

This has been accomplished by carrying the gospel of clean milk into the homes by efficient trained nurses, by teaching these mothers how to care for the milk in the home, the scientific care of the child, feeding, bathing, clothing and daily routine of life. They teach the mother how to recognize when the child is sick and the necessity of reporting such condition at once rather than allow "nature to take its course." If no such organization exists in your city, and yours, interest the club women and philanthropists, and start one at once, keep in touch with the work and direct their activities and become instrumental in stemming the tide of the wanton destruction of the innocents through ignorance of right living.

ENDOMETRITIS.*

By WM. L. MOSBY, Bardwell.

Endometritis is an inflammation within the uterus involving the mucosa but may terminate in the deeper structures by contiguity. It usually extends from the cervical canal upwards but may descend from the ovaries and tubes to the uterine cavity secondarily.

In the etiology of endometritis we may find any of the pathogenic bacteria ordinarily found in the genitalia either individually or in mixed form responsible for the local infection including the staphylococci, streptococci of suppuration, bacillus of tuberculosis, bacillus coli communis and the pneumococcus of Frankel.

Bladder parasites and the saprophytes from the rectum and colon are conveniently accessible to the genitalia for its infection.

The bacillus coli communis lives in an acid media so it will easily pass through the acid vaginal secretions to the uterus to excite inflammation.

The gonococcus of Neisser, a destructive and frequent factor in etiology of endometritis is responsible for many of the severe infections met with in practice. It may remain quiescent in the mucous crypts for the longest period and then spread to the endometrium with all the virulence of a real active inflammation of this anatomic structure.

The predisposing causes of endometritis are any condition favoring pelvic congestion especially when associated with anemia, tuberculosis or any debilitating constitutional condition; menstruation, suppression of menses, uterine displacements, abortion and parturition, traumatism, excessive coitus, etc.

The micro-organism discussed under etiology of endometritis are present as an essential factor in the production of this pathologic condition when added to the predisposing local and constitutional defects mentioned. Normally the cervix and corpus uteri are free from pathogenic bacteria but when invaded they will be active or inactive according to the resisting powers excited by their presence.

The uterine mucosa is penetrated with a great number of tubular glands well adapted to the incubation and distribution of infective bacteria so that the tendency of these inflammations is to become chronic and resist treatment. It is lamentable that so frequently have the surgeon's fingers or his dirty instruments carried infection to a healthy uterus, in parturient and other instrumental cases, indeed the intra-uterine use, or *mis-use*, of the sound without proper sterilization and sufficient justification for its use should be condemned as dangerous practice. Unnecessary explorations and local treatment have carried the infection from a harmless field to one of more danger with increased virulence and in more than one instance have I seen abortions produced by this formerly frequent and vicious form of so-called treatment. Histologically we have the glandular form of endometritis which may be either hypertrophic or hyperplastic and the interstitial, which may be glandular and interstitial combined. In the glandular variety there is augmentation of glands both as to size and number. Hypertrophic endometritis causes increase in size of glands and variation of the perpendicular arrangement of canal, they become more tortuous, extends deeper in or through the mucosa, become constricted in some portions and dilated in others. These glands are lined with columnar epithelium and under the stimulus of disease each individual cell undergoes enlargement.

The hyperplastic form may be characterized by all the essential features of hypertrophy but with increase of number of glands actually present. This increase means a corresponding decrease in the interglandular tissues so that the ratio of four to one may be changed or even inverted. This increase is produced by constriction and invagination of the gland by inflammatory action.

In the interstitial form of endometritis the hypertrophy or hyperplasia applies to the connective tissues and this augmentation de-

*Read before the Kentucky State Medical Association, Louisville, October 30, 1912.

stroys the normal utricular glands, increasing the normal connective tissue.

In the destructive process of inflammation the glands may degenerate into retention cysts by closure of outlets. The mixed form includes the mucus polypi and occurs where interstitial inflammation is associated with the glandular enlargement.

The presence of these growths will usually be accompanied by profuse secretion and hemorrhage is more common than in other varieties of endometritis.

Clinically we may recognize a number of forms of endometritis arising from different etiologic factors and varied symptomatology in each individual case according to the fancy of the gynecologist but practically they can usually be referred to some of the histologic arrangements assigned above.

Want of time will prevent a consideration of the clinical varieties suggested by leading features of the case such as septic, gonorrheal, senile, tubercular, traumatic, etc., as these clinical data are useful only as suggestive to therapeutic management of patient and should only be so considered. Endometritis following labor, abortions, intra-uterine trauma, gonorrhea and septic infections will be acute and subject patient to grave danger unless severity of attack is modified by prompt therapeutic measures.

In the acute form the on-set is sudden and ushered in by a distinct chill, followed by fever of moderate degree, with quick pulse. may be nausea and vomiting and also diarrhea sometimes occurs, attended with rectal and vesical tenesmus. Pains more or less severe in the pelvis and loins are usually present. Rigors, recurring at frequent intervals with temperature, either intermittent or remittent, is present. After a few hours a mucus discharge appears which later becomes purulent and is sometimes mixed with blood. Salpingitis and even peritonitis may follow these virulent infections with all the formidable symptoms and dangers that attend these grave conditions or the acuity may gradually pass away and the symptoms become sub-acute or chronic with a milder form of local and systemic symptoms.

The chronic form of endometritis is so insidious usually that the patient cannot always recall the first appearance of the disease unless it follows the acute form.

Leucorrhea is more profuse where the glandular structures are extensively involved and correspondingly less atrophic changes have occurred. Where mucus polypi or fungoid development exists the discharge is more purulent.

Hemorrhage when present is due to hypertrophy of the mucosa and may be profuse either as a menorrhagia or as a metorrhagia

where fungoid or polypoid changes occur in the endometrium but in other conditions menstruation may not be disturbed.

Pain is not infrequently present but has no special pathologic or clinical significance, but is rather to be attributed to associated or underlying pathologic conditions, however, the sensitive nerves of the inflamed mucosa will produce pain in some individuals or a localized character, while in others it may be entirely reflex and referred to the vertex or occiput or even lower spinal region or to the hypogastrum. Patients are often neurasthenic or nervous, sometimes to the extent of hysteria, and great mental depression with disinclination to mental or physical exertion with unusual inclination to fatigue may be present. Alimentary disturbances, marked by disposition to flatulence and constipation, are frequently present and contribute no little to discomfort of patient and aggravation of the pelvic congestion. The diagnosis can only be made by the history of the case, local and general symptoms combined, aided by the sense of touch and sight and the use of the microscope. Touch reveals the presence of laceration of the cervix, displaced uterus, patulous os, subinvolution or any alteration in size or shape of organ with unusual tenderness to touch and if deviation from the normal as to softness or hardness exists this is also noted.

Sight, aided by the speculum in situ, reveals the presence of a discharge from the os uteri and its character but when a microscopic examination is necessary, where we suspect gonorrhea or sepsis and wish to differentiate the pathogenic bacteria present, we should first remove the mucus from the cervix carefully before obtaining the discharge from the corporeal utricular glands.

Where curettment is necessary and malignancy is suspected, we should avail ourselves of the services of the pathologist to examine the scrapings for possible degenerative changes.

TREATMENT.

In the application of remedies in the treatment of endometritis we should consider the severity of the infection, whether confined to the cervix or the body of the uterus, whether recent or chronic and what bacteria are responsible for the inflammation present, if possible. Constitutional defects should be corrected in so far as is possible and etiologic factors both predisposing and exciting should be removed.

Where there are local causes for infection it should be carefully and completely removed by indicated medical or surgical measures with as little meddling as possible. Where placental tissues are retained they should be removed and the uterine cavity irrigated with

bichloride solution 1-2000 followed by normal salt solution twice in the twenty-four hours until symptoms show signs of improvement without which we may curet after forty eight hours if favorably situated and possessing sufficient skill and the environments will permit.

Where gonorrheal infection is responsible for the endometritis and the attack acute and severe we should at once dilate and curet and follow by intra-uterine irrigation with sublimate solution. Pure carbolic acid may now be applied to the endometrium to destroy remaining bacteria and prevent reinfection. Absolute rest in bed for one week should be enjoined.

Where constitutional dyscrasia are present as a etiologic element in the case we will require little or no local treatment but improvement of the general health by the administration of indicated tonics, improved hygiene, proper food and exercise, regulation of bowels and kidneys and removal of local conditions favoring congestion and sources of infection if any. Briefly we would say treatment is constitutional, local and surgical, according to indications.

In the systemic application of remedies the therapeutic fancy of the gynecologist with pathologic indications will determine the measures to be adopted in safeguarding these cases as the drugs used are too numerous to mention and must be determined by conditions present in each individual case.

The topical application of medicaments to the endometrium as a "routine" can not be too severely condemned and the pernicious habit of intra-uterine exploration with the sound without proper preparation of the patient and the complete sterilization of all instruments and even then without adequate indications for so doing, is attended by great danger and is not practiced by the best gynecologic surgeons of to-day. Avoid intra-uterine medication except there is positive indication and then only under strict aseptic or surgical environment.

Strong applications of both antiseptics and caustics are more potent for evil than for good and their frequent and improper use may destroy the endometrium and injure the deeper structures of the myometrium, producing new pathologic conditions that may require surgical measures to relieve.

The remedies used for local treatment are more numerous than efficient, so we shall only mention those most frequently relied upon and we might say the more dependable measures for this purpose; creolin, iodine, carbolic acid, ichthyol, iodoform and formalin as the best therapeutic agents.

We deem it unnecessary in this connection to elaborate the methods of topical treatment

but would emphasize the importance of securing thorough dilatation before these applications are made otherwise mischief may be done.

Curetage of the uterus should be done in the infectious and chronic forms of endometritis that have proven rebellious to local and constitutional methods of treatment.

The technique of this valuable expedient we shall not discuss before you but pass by suggesting the same thorough care in preparation of patient and aseptic surroundings as for any abdominal operation.

Where inflammation exists in the adnexa with immovable uterus, sensitive to the touch, there is increased danger of lymphangitis or peritonitis. Formerly salpingitis, ovaritis and peritonitis were considered contraindications for uterine invasion for treatment but now they only suggest greater care in operative procedure and demand the complete removal of all diseases mucosa.

The dull curet, like the uterine sound, in these cases are to be equally condemned as they open up new avenues and supply fresh material for infection and are powerless for good.

This important gynecologic operation should be done only under proper surgical environments and with sufficient surgical skill to promise patient all that modern gynecology offers these unfortunate sufferers.

VASCULAR TENSION IN CHRONIC ILLNESS.*

By J. D. MUTTERS, Ashland.

The normal metabolism of the human body requires the supply of food quantitatively and qualitatively of the proper kind, the laying up of this food within the body, a regular chemical transformation of the tissues, and the formation of the effete products which have to be given out through the excretory organs.

In order that normal metabolism may go on there must be quiet, even flow of the blood-stream in the vast capillary areas, everywhere flooding the tissues with nutriment and oxygen. The flow of the blood-stream from the heart into the arteries is an intermittent flow. The conversion of this intermittent flow into a quiet, even one, (as observed in the capillaries), is due to the elasticity of the arteries, and the peripheral resistance. This brings us to the consideration of blood-pressure.

The factors which determine the blood pressure at a given moment in any individual, are the power of the heart, the volume of the circulating blood, the elasticity of the arteries, and the resistance to the flow.

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The blood-pressure depends in the first place, upon the strength of the ventricular contractions, and, since the work of the heart depends upon the volume of blood discharged into the aorta, the velocity imparted to it, and the aortic pressure overcome, it is plain that a difference in blood-pressure may be brought about by a change in either the power of ventricular contraction, or the volume output of blood. Any increase of the power of the heart, in the volume output of the ventricles causes a rise in pressure, and any diminution a fall if the peripheral resistance remains unchanged.

The total blood-volume is small when compared to the full capacity of the arteries, capillaries, and veins combined. This disproportion is compensated for, in the normal individual, by the continuous contraction of the smaller arteries; in other words, by the vaso-motor tone. Therefore, the volume of circulating blood, (within certain wide limits), has in the normal individual, only a subordinate and temporary influence on mean blood-pressure.

The elasticity of the arterial wall is a mechanical device of great importance. In it during the contraction of the heart a large part of the power of the ventricles is made potential, to be utilized in moving the blood during diastole, thus converting an intermittent into a continuous propelling force, and distributing the hearts work over more than twice the time of its actual muscular contraction.

The elasticity of the normal arteries is very perfect, they may be much distended by pressure and subsequently resume their original size. It is this property of elastic distensibility which is so important. It is safe to assume that a healthy artery cannot be torn by any increase in blood-pressure which is possible during life.

The limits of elasticity of the arteries vary with the internal tension to which they are subjected. Experiments have shown the greatest elasticity at about the lower limit of normal blood-pressure for the animal, the elasticity decreasing at higher and lower pressures. Other experiments have found the maximum in the unstretched artery, and progressive loss of elasticity the higher the absolute pressure was raised. From the observation of investigators, at least one fact seems secure; viz.: at a high arterial pressure the distensibility of the arteries is distinctly diminished, and any increase in the systolic pulse-volume must raise the blood-pressure far more than a corresponding increase at lower pressures.

Since normally there exists a considerable pressure within the arteries, there must be a well-marked resistance as its cause. Between

the arteries and the capillaries are the arterioles. The main resistance to the passage of blood through the tissues is situated in the arterioles, and not, as formerly taught, in the capillaries. The really effective cause, however, is the so-called tonus of the blood-vessels. From the standpoint of the blood-pressure and its variations, the vasomotor mechanisms are by far the most important facts in circulatory physiology and should be studied carefully by all who attempt the interpretation and clinical use of blood-pressure determination.

The vaso-motor-tone is an absolute necessity for the maintenance of the circulation. The tonus of the blood-vessels varies constantly in particular areas, in response to local needs. This is a physiological necessity, since increased function of a part must always be accompanied by increased blood-flow.

Of all the parts of the vascular system, the abdominal vessels, enervated by the splanchnic nerves, have by far the greatest effect on general blood-pressure. This is one of the most essential facts to bear in mind clinically. If the blood-pressure rises to a point where the heart is embarrassed, reflex dilatation of the countless arterioles of the abdominal viscera, evoked by the depressor nerve, promptly causes a fall. Therefore, an abnormally high blood-pressure cannot exist permanently, unless there has been some damage to the regulating power of the visceral circulation.

With increase in peripheral resistance, increased cardiac energy is required to keep the same volume of blood flowing through the capillaries, and, if it is lasting, the working ability of the heart must be raised to a higher average level, and this necessitates more or larger muscle fibres. Hence, permanent high blood-pressure cannot be maintained without hypertrophy of the heart. We find the most complete confirmation of these conclusions in the case arterio-sclerosis when the splanchnic arteries or the aorta above the diaphragm are highly disensed.

Permanent high blood-pressure is one salient feature of chronic interstitial nephritis. From the standpoint of diagnosis, hypertension is of great importance in connection with the contracted kidney. It is one of the most constant and, with the sphygmomanometer, most easily detected evidences of the disease. Patients with chronic nephritis frequently consult a physician for nervous symptoms, precordial distress, on exertion, some shortness of breath; auscultation of the heart is negative, and because of obesity enlargement of the heart cannot be made, a single examination of urine may reveal anything suggestive of renal disease. The great advantage of blood-pressure measurements is, that hyper-

tension will certainly be detected, and this will put the physician on the alert.

From the standpoint of prognosis, a gradually increasing pressure which resists treatment, is of bad significance when there are any symptoms of cardiac insufficiency, because increasing the work of the already overtaxed left ventricle.

Another feature in prognosis is the danger of cerebral hemorrhage. It has been well established that this is a common termination of Bright's disease.

Again the sudden development of a rising blood-pressure, may indicate the onset of uraemic manifestations, and deserves immediate attention. There seems little question that the uraemic manifestations, that is, headache, vomiting, and disturbance of consciousness, run closely parallel with the blood-pressure.

In the investigation of arterial disease, only a small portion of the great arterial tree lies within reach of ordinary methods of physical examination, the most important branches, those to the abdominal viscera, are entirely removed from approach. The sphygmomanometer is therefore a useful adjunct to other measures of examination.

There is a class of cases that show high blood-pressure, but neither discoverable arterial thickening, nor any clinical evidence of nephritis. These cases are important ones practically, they must be considered as having a permanent augmentation of peripheral resistance in the arterioles, especially in the splanchnic circulation. This condition has been termed "angino-sclerosis," the recognition of which is much easier by the sphygmomanometer than by the ordinary methods of examination.

In the diagnosis of angina-pectoris well marked hypertention is important evidence, especially in the case in which no anatomical changes can be found by ordinary physical methods of examination.

Permanent high-blood-pressure is a source of altered function throughout the circulatory system, which leads to further secondary changes, as for instance, structural alterations in the heart muscle, and sooner or later the power of such a heart will become insufficient for the demands upon it.

The elasticity of the arterial wall decreases under the influence of permanent high blood-pressure and dilatation of the arteries may take place.

Finally permanent high blood-pressure should be looked upon as an evidence of a toxemia and as a symptom complex in a great variety of conditions.

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COMMON DISEASES OF THE EYE IN CHILDREN FROM THE STAND- .. POINT OF THE GENERAL PRACTITIONER.*

By GAYLORD C. HALL, Louisville.

It is not the hope of the writer to bring forth anything new or startling, either in the conception or treatment of the diseases under consideration but rather to emphasize and bring to the attention of the general practitioner a few well known and homely facts regarding the examination, diagnosis, and treatment of the commoner diseases of the eye as seen in childhood.

I first wish to call your attention to the matter of examination for I think that most of the failures in the treatment of these conditions start here.

Three of the most prominent symptoms in external diseases of the eye consist in pain, swelling, and sensitiveness to light, all three of which are factors contributing to a difficulty of an examination and it is perfectly evident that one who goes about an examination half-heartedly will learn very little about the real condition of the patient's eyes.

One should proceed deliberately and thoroughly, using as little force as is consistent with the thorough inspection of the parts under examination.

The most satisfactory method of making an examination in young children is to provide two chairs with the apparatus for examination on a table conveniently at hand. This apparatus should consist usually of a suitable lid retractor, a light of some kind, and a condensing lens.

In one chair let the mother or nurse sit holding the child in her lap, the examiner sits in the other chair holding the head of the child firmly between or on his knees so as to take advantage of a good light.

Spasm of the lids will of course result as soon as an attempt of examination is made but a little persistence on the part of the examiner will soon result in the overcoming of this and usually an examination of the external eye and particularly the cornea is possible as the spasm relaxes.

If this spasm can not be overcome by using the fingers a lid retractor will of course have to be called into service and should be used as gently as possible, pulling the upper lid not only up but away from the eye-ball, when the parts can be thoroughly inspected.

I have gone somewhat into detail regarding the method of examination since nothing will so inspire confidence in the patient as seeing a man go about an examination in a thorough-

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ly competent and business-like manner. What is more important, however, it enables the physician himself to ascertain the structure at fault and thus he is thoroughly armed in the management of the case, since he has the confidence of the people and a knowledge of the diseased condition.

Supplementing this it is well to instruct the people in charge of the case as the examination is being made that this is always the most satisfactory position in which to instill medicine in the eyes, for it is futile to examine and diagnose if the medicine which will cure the case is not thoroughly and conscientiously used.

I wish to dwell in particular upon these points since I feel confident that it is this indifference or diffidence on the part of the general practitioner which often results in failure, where the same line of treatment with these factors eliminated would have resulted in success.

Let us consider briefly some of the diseases common in childhood.

CONJUNCTIVITIS.

Old classifications of this disease are catarrhal, muco-purulent and purulent. This should be eliminated since it conveys no information regarding the source or type of infection. It is far better to classify these types of inflammation according to the infective agent present and it has a further important bearing regarding treatment.

The acute epidemic conjunctivitis popularly known as pink eye may be caused by one of several organisms, the Koch-Weeks bacillus and the pneumococcus being the most common cause. There may be associated a staphylococcus or streptococcus infection or the infection may be continued by the presence of the xerose bacillus.

These infections yield usually to weak silver nitrate solution from one-half to two per cent. used by the surgeon with the instillation by the patient of some of the newer silver preparations four or five times a day, such as argyrol in twenty to fifty per cent. solution.

Another infection of the conjunctiva that is of especial importance is the bacillary conjunctivitis or otherwise called Morax Axenfeld conjunctivitis.

In contradistinction to the epidemic conjunctivitis, which is a disease prevalent in cities and crowded districts, Morax Axenfeld conjunctivitis occurs often in rural communities, is not especially inclined to become epidemic and is a disease of many and various manifestations.

It sometimes occurs at one corner of the eye, the so-called angular conjunctivitis, there being simply a slight redness of a circumscribed area and a white scum along the lid mar-

gins, which may show some degree of blepharitis.

In other cases the entire conjunctiva may be involved with considerable purulent discharge. In severe cases the cornea itself may be infected and the case go on to considerable destruction of tissue. These types are, of course, uncommon. Examination of the secretion taken preferably from the internal canthus show the diplo-bacillus which is the cause of the infection.

It is here that bacteriology comes into prominence as a diagnostic agent for the silver salts which were effective against the Koch-Weeks bacillus, pneumococcus, staphylococcus or gonococcus are singularly ineffective in this condition.

Salts of zinc are probably specific and a solution of from two to four grains of sulphate of zinc to the ounce of water will speedily clear up any ordinary case of this trouble.

OPHTHALMIA NEONATORUM.

The ophthalmia of the new born, practically the gravest and most dreaded of all diseases of childhood comes as a heritage to the infant within a few hours after its birth.

While in a vast majority of instances the gonococcus is the infecting agent it is to be remembered that other bacteria may be responsible for as severe an ophthalmia as the first mentioned organism.

It is useless to say that the most prompt and energetic measures should be instituted the moment even a suspicion of the trouble exists and I recommend the prophylactic instillation of nitrate of silver immediately after birth in the eyes of all children, regardless of their record, wealth, or social condition of the parents or of a negative history.

In these cases it is of the utmost importance to obtain an accurate view of the eye at the beginning, repeating the examination as often as is necessary to retain a clear conception of the progress the case is making.

It is to be remembered that immediately after birth swelling of the eyes may be due to edema, to pressure from instruments, or the instillation of nitrate of silver, and while suspicious, is not alarming.

At the onset of the case all those who come in contact with it should be informed of the infectious nature of the trouble and warned in the proper care of their persons. They should also be instructed regarding the disposal of all things which come in contact with the infected eyes.

If one eye is clear it should be suitably protected. A celluloid vaccination shield with the air holes covered makes a suitable protecting agent.

The infected eye should be first carefully cleansed with warm saline or boric acid solu-

tion, saline preferred, taking care that the accumulated secretion in the culdesac is thoroughly evacuated; following this, installation of one to two per cent. nitrate of silver should be made with the lids everted and immediately following this a solution, from 25 to 50 per cent. of argyrol should be instilled. Allow the lids to resume their normal position and in a minute or so, upon again everting them, a brown film or pellicle will be seen over the surface. This should be gently removed by mopping and argyrol again instilled repeating this several times until the pellicle no longer reforms.

This is extremely important since most of the discomfort arises from strings of secretion irritating the eyes after the instillation of the medicine; unless this be carefully removed the patient fears the treatment almost more than the disease whereas if removal is carefully done he has a grateful sense of relief following the treatment.

This part of the treatment should be done by the physician himself; following his visit the nurse in charge should be instructed to keep the eyes clean by washing with the salt or boric acid solution every half hour if necessary, every two hours instilling the argyrol solution after washing.

Ice cloths are often very grateful early in the disease but should be used with caution in the very young as apt to disturb the nutrition of the cornea. Hot applications also have their place later on or the two may be used alternately.

Complications consist chiefly of great swelling of the lids which if not controlled by cold applications is best relieved by local blood letting. For this purpose take a pair of blunt pointed scissors and cut outward from the external canthus as far as the external wall of the orbit.

Marked chemosis of swelling of the ocular conjunctiva literally submerging the cornea and interfering with its nutrition may have to be relieved by snips of the scissors in the swollen conjunctiva placed radially around the cornea.

The most feared of all complications in this disease is ulcer of the cornea. The best treatment is preventive, by early energetic measures in every case and especial care in seeing that no treatment results in the slightest injury to the protective epithelial covering.

If it occurs in spite of these precautions, hot applications, atropin, to keep the pupil dilated—with redoubled care and energy in the local treatment; if the ulcer shows a tendency to spread, curettment or better cauterization with pure phenol followed by alcohol and an oil dressing is in order.

In spite of our best efforts some cases go on to extensive ulceration of the cornea and even

perforation with subsequent loss of vision.

But one case of this kind were needed, it would seem, to rouse the community to a determined effort to stamp out such a foul disease. Yet we find that these cases still constitute the bulk of the blind in our institutions.

PHLYCTENULAR DISEASES.

One of the most common as well as the most important of the diseases of childhood is phlyctenular conjunctivitis or keratitis. The most important symptom of this trouble is photophobia, which is intense. The discharge from the eye is usually of a watery nature and differs from that of the regular conjunctivitis.

The attack is characterized by the eruption over the cornea of little blebs filled with clear liquid at first, which becomes purulent before rupturing, at which time the ulcer presents a smooth punched out appearance usually with vessels running to it from the sclero-corneal margin, particularly if it has proceeded for any length of time.

These cases, by the way, are exceedingly difficult to examine, but the characteristic expression of the child who holds his eyes almost shut; and he will invariably shut them when you tell him to open them; together with the extreme photophobia should put one on their guard for the diagnosis of this condition.

Probably nothing better illustrates the futility of treating the local condition alone in the hope of a cure than in a case of this condition. These children are at fault constitutionally, often suffering with profound intestinal intoxication. There is usually a history obtained of over indulgence in sweets with a consequent deficient assimilation of other foods.

The bowels are often constipated and considerable intestinal putrefaction is evident. Often the hair is dry and brittle; the skin pasty and white with a deposit of a considerable degree of adipose tissue.

The case may be also complicated with extensive eruptions on skin of the lids or face, hair, or on other parts of the body.

It is also known that these cases are recurrent since following the attack the patient is very apt to resume the habits which actuated the first attack and it is well to bear this in mind and notify the parents to prevent a relapse into the old habits.

There has been a recent attempt to establish a relationship between this trouble and tuberculosis. Certain it is that a number of these cases give tubercular skin reaction and it is well known that the instillation of tuberculin in the conjunctival sac in a case thus afflicted resulted in a violent reaction. Up to the present, however, there has been no absolute proof that a cause of relationship exists between this disease and tuberculosis.

In the matter of treatment one of the first things is to give a thorough purgation, this to be followed by a general tonic.

Syrup of lactophosphate of calcium alone or combined with iron or the hypophosphate compound in suitable doses is recommended.

The diet and habits of the child should be rigidly inquired into and all sweets forbidden.

Finally, to the eye itself yellow oxide of mercury in one grain to the drachm applied three times a day is in some cases a specific; in others it fails to give the desired results.

If the ulcers show a tendency to enlarge or coalesce it has been my habit to touch the edges with pure carbolic acid which often brings about a very rapid healing. This of course should be done under local anesthesia and under perfect control followed by an immediate application of ointment. I have often found a combination of resorcin and salicylic acid with the mercurial salts would bring results where the yellow oxide alone failed. It must be remembered, however, that no amount of purely local treatment will cure the tendency to recurrence of this class of cases and an intelligent co-operation between the doctor and patient is absolutely essential for success.

BLEPHARITIS.

Blepharitis or inflammation of the lid margins occurs in two forms. One a dry variety with accumulation of dry scales around the base of the lashes; and a small zone of inflammation on either side. It is often exceedingly rebellious to treatment by local measures alone and should direct one's attention to a possible refractive error. Recurrent hordeolum or chalazion should awaken a like suspicion.

The other form of blepharitis is more severe with abscess formation around the lashes, which are covered with heavy crusts and on removal show shallow ulcers with a yellowish base. The edges of the lids are usually thickened with corresponding inflammation of the conjunctiva; other portions of the body may also be the site of the disease.

In the treatment of these conditions locally the first requisite is to remove the scales or crusts. This can be done easily by gently mopping with a solution of peroxide of hydrogen made alkaline with bicarbonate of soda at the time of using. After removal of these we are ready to treat the underlying disease.

Ichthyol does well in some cases. Probably the most widely used remedy is the yellow oxide of mercury ointment, a grain to a drachm. This should be carefully examined to see that the yellow oxide is thoroughly incorporated for the fine granules not rubbed up, which may be seen in the ointment look like little grains of red pepper and burn like them also.

I often incorporate a small quantity of resorcin and salicylic acid in this ointment

which seems to aid its action greatly in some cases.

As in phlyctenular troubles it is essential to inquire into the general health and in particular to correct the diet, building up the general health by appropriate tonics, not forgetting that these symptoms of external inflammation may be only the plea of the eye for relief from a refractive error.

TRACHOMA.

Trachoma is a social disease and demands mention here because every child on entering school life may be exposed to infection.

A study of the pathology of the disease gives us the indications for treatment. It is first a productive inflammation with hypertrophy of the lymphatic tissue in the lids manifested by the presence of granulations. After a varying period of time atrophy takes place which involves the whole palpebral conjunctiva.

It is this atrophy that is directly responsible for most of the baneful effects of the disease, by binding down the lids it produces pannus and indirectly the scarring of the cornea; also the trichiasis and entropion and ptosis so characteristic of this trouble.

The problems presented in this case are, first, the eradication of the granulations; second, the prevention of the effects of the atrophy or the relief of the atrophy after occurrence.

The first is best accomplished by some form of expression or removal surgically. The second by division of the canthal ligaments and excision of a portion of the tarsal plate.

It will be seen that the treatment of the disease is almost purely surgical. I have drawn attention to this disease for two reasons. First, to show the futility of attempting the condition with drops, washes, or by painting with blue stone.

Secondly, to call attention to its social characteristics, its infectionness and the desirability of its prevention.

There is but one solution of this difficulty, namely, education and the efforts already made along this line by some of the doctors in Lexington in their work in the mountains deserve the greatest praise.

Every doctor in the State should do all in his power to aid in the eradication of this disease.

STRABISMUS.

This paper would not be complete without a brief reference to strabismus. This is a condition of all others first seen by the general practitioner and most often neglected.

I wish to impress most strongly upon the memory of every one here that in these conditions one can not begin to treat the case too soon. As one writer has put it, a child old enough to squint is old enough to wear

glasses. While that may not be true in every case, at least we can say that a child old enough to squint is old enough to receive treatment for it.

The things to be borne in mind are that treatment should be carried out from the earliest inception of the disease because deferring treatment either takes a defective eye and makes it blind or takes an otherwise good eye and makes it defective.

Second, the child will not outgrow the condition but will get progressively worse.

Third, above all things, that an operation will not restore the visual acuity; that operative measures are simply a court of last resort to render the visual axis parallel and have nothing to do with restoring a person's power to see.

It is understood, of course, that I am speaking here of the ordinary concomitant convergent strabismus. I am not referring to paralytic conditions.

The treatment that the writer has found most effective is the following: First, a solution of atropin, usually one-half per cent, is used for a week or ten days three times a day in both eyes. This procedure in itself will often render the eye straight since it prevents the overbalance due to near work.

Following the use of atropin the child should be carefully refracted. If too young to refract from the trial case and test type, and they should be, these cases should be refracted by the retinoscope and a full correction given.

I have had a number of these cases to refract under these conditions and have been gratified to find that when the child grew to the age where it could answer questions from the test type there was little or no change to be made in the retinoscopic findings.

If the child is old enough attempts should be made at the start to determine how much loss of vision there exists in the eye which turns in. If none can be discovered the case is much more simple. If, however, serious impairment of vision is discovered in the squinting eye it will require months of steady hard work to restore this eye to anything like normal vision.

Following the atropin in both eyes one should discontinue the atropin in the bad eye allowing it to return to its normal state. This will allow the bad eye to be used for all near work and will train it in excess of the good eye. This should be further supplemented by covering the good eye for an hour or two every morning and evening forcing the child to do all things with the defective eye.

A word about the instrument of Worth. Claude Worth, of London, believes the essential cause of strabismus to be a lack of development of the fusion faculty, a center in the

brain which takes the images from the two retinas and fuses them into one. This center normally should be fully developed at the age of seven years, therefore if we expect to establish binocular single vision it is necessary that the child be trained before the end of the period of the development of the fusion faculty.

For this training his instrument, which has been modified by Dr. Black, is extremely useful in stimulating binocular vision in these cases. I have used this instrument for the past four or five years and can testify to its value.

In addition to this office work, home training by the parents or by the teacher at school is the work which does probably the greatest amount of good and the parents should be instructed in the conduct of the case.

So firmly ground has become the belief that an operation is all that is necessary for the handling of these cases that actually it is hard to convince parents at times that the method of treatment that I have laid down is the proper one to pursue. They often feel like they would rather take an operation and have it over with as being easier for all concerned but they fail to appreciate the real crux of the situation in that while an operation will restore the parallelism of the axis it will not restore the sight in the defective eye.

It should not be forgotten that the various infective fevers of childhood threaten not only the external optical apparatus but sometimes the fundus of the eye ball. Cases of iritis, cyclitis, choroiditis, and optic atrophy have been reported as a result of such diseases.

Cases of this description, however, belong more especially to the specialist in eye diseases and are simply mentioned here in passing.

Among the diseases mentioned in this paper there stand out two notably ophthalmia neonatorum and trachoma that are absolutely preventable and if every one did his duty would be completely stamped out after a time.

It is the duty, therefore, of every doctor in Kentucky to be alive to the best interests of his patients and educate them as to the cause and prevention of these two diseases.

He should further be interested in any legislation looking to the regulation of the practice of and licensing of midwives to control ophthalmia neonatorum.

The vast bulk of the trachoma in Kentucky exists in the mountains where a campaign of education is already started.

Other sections of the State, especially where foreign labor is being imported, should be alert to detect its presence so that they can stamp it out in its incipency and not have a trachoma problem on their hands.

ENTERIC THERAPEUSIS IN CHILDREN.*

By P. F. BARBOUR, Louisville.

Enteric therapeusis is a term which embraces so many things it is impossible in the limits of time to discuss more than the therapeusis of the diarrhoeal disorders. Before one can formulate a therapy, one must have a clear cut conception of the condition for which treatment is demanded. Unless one understands the conditions which are present in the intestine, he is hardly capable of adapting his remedies intelligently to attain the results at which he is aiming. There are many types of diarrhoea in the adult, which are found so rarely in children, as to be practically negligible. The diarrhoeas of uremia, tuberculosis and certain eliminative disorders, are exceedingly rare in childhood. For practical purposes one must class the diarrhoea of children under the following heads: It is either irritative or infective in its origin.

Irritative forms of diarrhoea include those which are due to the use of food that is wholly unsuited to the child. The infective diarrhoeas are, as their name implies, largely due to special forms of infection by micro-organisms. These two terms, however, are used in a very general sense and will require considerable elucidation, in order to express the ideas for which the words have been selected. Irritative diarrhoea results from the use of food which is not suited to the child at that particular time. This includes not only the well recognized substances, such as cucumbers, cabbage, fried meats and over-ripe fruits, but also many foods which are not in themselves unsuitable, but which the child at that particular time, through its constitutional tendency, is unprepared properly to handle. It is a well known fact that children are not able equally at all times to digest the same foods. The list of unsuitable foods can be added to by any one with experience in the treatment of children. One will often notice that there are inherited capacities or incapacities to digest certain general types of food products; again one will often observe in young children their inability to digest simple milk formulae, which other infants can handle with the greatest ease. It is interesting to pursue this train of thought a little further in view of the epoch-marking investigations of Finkelstein, and other eminent investigators, into the phenomena of internal metabolism. The subject is too big to be discussed within the limits of this paper, but it is important to bear in mind the contention of this school, that diarrhoea is frequently the

result of conditions which have arisen in the internal metabolism. Pediatricists formerly were willing to explain diarrhoea as the result of the irritation of the mucous membrane of the bowel, by unsuitable food. Of course we must recognize certain foods as having a direct irritative action upon the mucosa, just as certain drugs act as purgatives, but Finkelstein has shown that there are possibilities of harm from changes which take place in the food products, after they have passed through the mucous membrane and are in fact in the blood and lymph stream. That there are metabolic errors, which react upon the mucous membrane and which may be the cause of marked pathological changes in the mucosa, has followed naturally upon the studies of this school. While we cannot wholly endorse their claims that many diarrhoeas are due entirely to these metabolic changes and that bacteria play only a minor and secondary part in the etiology of diarrhoea, yet we must acknowledge that their study has awakened a new interest and offers very alluring prospects of valuable results to be accomplished along this side line.

The therapeutics of irritative diarrhoea includes then the medicinal handling of the diarrhoea and the rearrangement of the dietary in consonance therewith. If the food is unmistakably unsuited to the child it must of course be stopped. The diarrhoea will cease as soon as the offending material has been eliminated, for this, a simple purgative must be used, castor oil is best if it can be retained; if there is much nausea and the tongue is badly coated, minute doses of calomel and soda, given dry if necessary; if there is much acidity in the vomited matter or in the stool, milk of magnesia until the offending material is eliminated. It may be necessary to use enemata to prevent the peristaltic wave from reversing itself and so producing vomiting. A weak mustard paste applied to the epigastrium is often of service and occasionally it may be necessary to use adrenalin or cocaine solution, to quiet the stomach enough to retain the purgative medicine.

The green apple diarrhoea is an extreme example of this type of disorder. Immediate purgation is the only rational treatment for such cases and complete stoppage of that kind of food. When, however, the indigestion is of some essential element of the food, such as milk, then the same treatment is indicated, but one can keep the child off milk for only a limited time and a return to milk feeding must be made gradually, according to the tolerance of the child. According to Czerny and Keller the different elements of the milk, the fat, the proteid, and the sugar, may be either the exciting cause of injury to the intestine or a cause of deranged metabolism. I can

*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

only refer the student to recent discussion of the problem of milk feeding, for information along this line of the causes of diarrhoea.

Infective types of diarrhoea postulate the generally accepted doctrine of the relationship of bacteria to inflammation. For practical purposes one may divide these diarrhoeas under three heads, the catarrhal, the ulcerative and the toxic. The catarrhal type is analogous to the passage of large quantities of mucus from the nasal and bronchial mucous membrane. The mucus, here, however, must be more or less mixed with other materials, which are thrown out into the intestinal tract, so that it is of different colors, green, yellow, brown, etc.; of varying consistency, thin, thick, ropy, tenacious, etc.; mingled with food products in varying stages of digestion, with normal or abnormal secretions from the glands which empty into the intestine, and all scented with diverse putrefactive or fermentative changes in the food or the secretions. It is a moot point just now, as to whether bacteria are responsible for this condition. It may as well be acknowledged that no one has as yet found or isolated any organism which can be proven to be the cause of this clinical syndrome. The fact that it is most common in hot weather and in children who are upon cow's milk or a mixed diet and is especially frequent and malignant in infant asylums, where young children are grouped together, makes it most probable that a living organism is the cause of the disease, rather than some error in the fragmentation of its food. The fact that we have not as yet isolated the organism or organisms is simply negative and of very little value, as the same could have been said of tuberculosis before the discovery of its bacillus.

Mucus is an outpour from the mucous membrane and is partly a direct secretion of mucin and partly made up of dead epithelial cells, which have covered over the surface of the intestinal villi. This excessive formation of mucus is peculiar to children so that the term summer complaint is limited in its application to that early age. We know that this overproduction of mucin is peculiar to young people whose tissues contain relatively a larger proportion of mucin than adults' tissues. The epithelial cells are less mature, like the lymphatic glands, and therefore more liable to inflammations and disease. In infancy we have a mucous membrane more exudative of mucus, more easily injured by foreign bodies or by living organisms, a food which is given to the child in its raw state and containing great numbers of bacteria, and the summer heat and humidity to lower the resisting power and it is no wonder that so many of the little ones sicken and die. Certain of

these factors are remediable and certain are beyond our correction.

The mucous membrane of the jejunum and the upper part of the ileum is the portion of the bowel which is most affected in these catarrhal inflammations. It is irritated by food which is unsuitable, or the food may not be bad but at that time there are certain forms of bacteria multiplying in the bowel which grow best on that particular kind of food and produce out of it end products which are irritating to the mucosa. Or the germs themselves may exert a locally irritating effect upon the bowel. Or the digestive functions may be in such abeyance that the food is fragmented into unusual and bizarre radicals, which will inflame the membrane.

Let us take up these items seriatim—the heat and humidity, the bacteria, the food and the viable mucous membrane.

The heat and humidity can be controlled to some extent by electric fans, ice water, or wet cloths hung in a draft. We all have seen the quick results of a cool day following a heated term, or a cool boat ride on river or ocean. Heat depression is easier to feel than to measure by scientific apparatus.

The bacteria may be divided into two great classes, the proteolytic and the fermentative. The proteolytic develop upon nutrient media of nitrogenous nature. When nitrogenous matter undergoes decomposition poisonous products, ptomaines, etc., are formed, and foul gases and putrid stools are met with. There is absorption of toxic materials which increase the temperature, the restlessness, and the prostration; according to the character of toxin elaborated we find one or another symptom predominating. We do not know enough about the bacteria of putrefaction and the chemical compounds formed. But we can diminish the number of bacteria by active purgation, preferably with oil or calomel, and remove millions of germs in this way. We can possibly limit their activities, inhibit their growth, if we do not entirely kill them by various antiseptic drugs. We can give a carbohydrate food which will not be a suitable nutrient medium for them and which will form acid products which are hostile to the proteolytic bacteria, as they grow best in an alkaline reaction of the bowel. We can, by tea or tannic acid in its organic combinations, form insoluble tannates of the alkaloids generated out of nitrogenous matter. When the stools are foul and offensive, we should give such antiseptics as will lessen bacterial action, after having flushed the bowel. Bismuth subnitrate, or other bismuth salts are the most reliable. The sulpho-carbolates of sodium calcium and zinc are probably equally reliable. They should be given in dose enough. The bismuth salts are best administered in ten

grain doses every two hours, until the stools show black. When that object is attained bismuth has accomplished all that it can. Of the innumerable antiseptics recommended and poured out upon a gullible people one must always bear in mind that nothing should be administered which will in any way hinder normal digestion in the stomach or intestine. The fermentative bacteria grow on carbohydrates and produce various acids, which cause a watery, acid diarrhoea, frequently foamy or spurty, and yellowish or watery in color or consistency. There is often much colic and gas, but unless other conditions are grafted upon it, there is little danger. The fermentative bacteria grow upon carbohydrates, barley water, sugar of milk or other sugars. When the carbohydrate content of food is much increased the colon bacillus becomes a facultative fermentative bacterium and its toxicity lessened. The character of food then will help determine the flora of the intestinal tract and one must apply a full knowledge of dietetics in such cases. In general, acid stools indicate fermentative bacteria at work, so that albuminous foods are to be given, such as egg albumen, beef juice, etc. But when the stools are offensive, then the carbohydrates, such as barley, rice or oatmeal water, grape juice, etc., should be given. Soups and broths really contain very little besides extractives, and the meat jellies, like chicken jelly, contain gelatin, which is not attacked by bacteria and which is therefore a fine food under these conditions, being a proteid sparer and yet not being decomposed itself by organisms.

Milk which contains so many different kinds of food and often so many bacteria is contraindicated in diarrhoea. And frequently one will find that an intolerance of milk established at such times, will persist for many days if not weeks. It is often advisable to add condensed milk to barley water or other cereal decoction, and when it is tolerated, then skimmed milk, in small amounts, may be slowly added and increased. One often sees large curds of milk passed from the bowel with much aggravation of the symptoms, because the curds have carried infection and irritation through the whole length of the intestine.

The mucous membrane itself will require a therapeutics adapted to the condition present. In catarrhal inflammation of the mucosa of the small bowel, we shall find there is an outpouring of mucus and a loss of the cells covering the villi. As the epithelial cells are destroyed, their places are filled by other epithelial cells, which are less perfectly mature and thus less able to do their functions properly. These functions in brief are the absorption of the food products which must pass through these cells before they can reach the blood

vessels and lacteals and which food products, as we know from our physiology, are largely recombined and synthesized by the epithelial cells. Secondly they protect the tissues of the villus from the actions of irritative toxins or enzymes in the intestinal canal, and thirdly they must preserve their own integrity of structure and live out their own cell life process. The immature cell is far more likely to break down under the attacks of the toxic material within the bowel, and therefore when a catarrhal condition is once started it continues under less and less provocation and this explains why the mucus persists in stools so long after the original disease is apparently cured. The nutrition of children suffering from this catarrhal trouble is often seriously interfered with, because of the inability of these epithelial cells to perform their functions properly, and therefore it is exceedingly important to watch the diet closely for days after recovery. The accepted drug treatment of this inflamed membrane is with bismuth or other similar preparation. At present we cannot offer any suggestion of a better treatment, but the postmortem pictures contained in textbooks of the mucous membrane of the intestine practically covered with the black compound of bismuth, will show that even it fails very largely of attaining the result we desire. Milk of bismuth is better than the other salts in many such cases, because it does not have the crystalline formation of the other compounds, for the crystals themselves are often irritating to the inflamed mucous membrane.

The ulcerative type of enteric disorder has for its seat principally the mucous membrane of the colon, and is due to the action of various organisms, either locally or through their toxins. There are a number of bacteria which have been recognized as causing ulcerative changes, such as the bacillus dysenteriae, the streptococci and others. The ulcerative type of diarrhoea is characterized by frequent small stools of mucus and blood. There are tenesmus and tormina, the temperature is not much elevated as a rule, the prostration is very pronounced. In a previous editorial the writer has gone very fully into the rationale of the treatment, but will here take time only to summarize the facts. The bacillus of Flexner elaborates toxins in the small bowel. Neither the bacillus nor the toxins seem to attack the mucous membrane at that point, but the toxins are observed passing through the liver into the general circulation and are eliminated through the mucous membrane of the colon; where a portion of the toxin ulcerates the most superficial part of the valvulae conniventes. Another portion of the toxin attacks the nervous system and produces convulsions and death. The treatment then consists in the removal and destruction of the ba-

cillus and toxins within the small bowel. This is best accomplished by purgation with small doses of castor oil and aromatic syrup of rhubarb, alternating with one-hundredth grain doses of bichloride or biniodide of mercury, every two hours. The treatment of the ulcers in the colon, whether due to the bacillus or to the streptococci, is best by colon douches of mild demulcent solution and by warm counter irritation over the abdomen, and by the administration of small doses of opium, which should be given until physiological rest is secured. But opium should never be continued if the bacteria are still at work in the intestine or when its administration is followed by a rise in fever or an increase of foul odor to the stools. It has seemed to the writer to give better results when prescribed with small doses of aromatic sulphuric acid.

The toxemic type of diarrhoea is shown by frequent vomiting and purging of colorless and practically colorless liquid from the bowel. The internal temperature is very high, hands, feet, face and breath may be cold, the eyes sunken and heart beat feeble and pulse almost gone. After death there is little if any evidences of any pathological change in the intestine. Cholera infantum kills by action of its toxins; these toxins are frequently formed in the food before it is ingested. There is a potentiality of such toxin in all proteid foods. Vaughn for instance has demonstrated it in egg and other types of albumin. This form of diarrhoea is comparatively rare in recent years, because we know so much better how to take care of milk and other foods for children. Such toxic decomposition of products have largely been eliminated by education of the dairy-men and likewise of the public. The fatality results from the enormous loss of liquid and it is necessary for us to maintain the strength of the patient and the liquid content of the blood, until such time as enables nature to secure another readjustment of the equilibrium. Such cases require hypodermies of small amounts of morphine and atropine; the administration of water by mouth, if practicable, otherwise by enteroclysis, according to the Murphy method or even by hypodermoclysis. We must play for time, because the elimination of the poison is rapid and if we can maintain life for a few hours the victory will be ours, and little other medication will be needed. It is important not to make the mistake of diagnosing every case of slight vomiting and purgation as true cholera infantum. Most cases of diarrhoeal disorders, in very young children, will begin with more or less vomiting and purging. It would be very bad therapy to use opium in such cases, for it would lock up in the bowel the very substance which was causing the

trouble and therefore prolong the attack. The characteristic feature of cholera infantum is the persistent vomiting and purging of the odorless, non-fecal liquid, with exceedingly rapid prostration, and in only such cases is morphine and atropine allowed.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Non-official Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.*

THE FOOD AND DRUGS ACT AMENDED.—About a year ago the Supreme Court decided that the Food and Drugs Act of 1906 contained no prohibition against false statements as to therapeutic value. Now Congress has amended the law by adopting Congressman Sherley's amendment which makes therapeutic lies on the label of a medicine illegal by adding the following as paragraph 3 to Section 8, "If the package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article, or any of the ingredients or substances contained therein, which is false and fraudulent." There can be no question as to the intent of this amendment. It says to the "patent-medicine" faker in plain and unequivocal terms: "Thou shalt not lie."—*Jour. A. M. A.*, Aug. 31, 1912, p. 727.

VIBURNUM COMPOUNDS AND OTHER NOSTRUMS.—There are a number of drugs which have in some way obtained a reputation as being valuable in the treatment of diseases of women without their therapeutic claims ever having been proven. A considerable number are combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders. Thus Hayden's Viburnum Compound is claimed to contain American skullcap (*Scutellaria lateriflora*), cramp-bark (*Viburnum opulus*) and wild yam (*Dioscorea villosa*). Other mixtures of this kind including "patent medicines," proprietary nostrums and "pharmaceutical specialties" contain such drugs as black cohosh, blue cohosh, goldenseal, lady's slipper, false unicorn-root, cramp-bark, wild yam,

star-grass, trailing arbutus, motherwort, Jamaica dogwood, pulsatilla, squaw-vine and saw palmetto. The popularity of preparations of this kind is purely an artificially created one. A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, and the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such "specialties" on the market is that physicians prescribe them.—*Jour. A. M. A.*, Aug. 31, 1912, p. 735.

MISSOURI PROGRESSIVE.—At the annual meeting of the Missouri Medical Association the following motion, urging its members not to support medical journals which carry questionable advertising was adopted:

Whereas, The American Medical Association has been doing effective work to counteract the influence of certain medical journals whose advertising pages carry many fraudulent advertisements; therefore, be it

Resolved, That it is derogatory to the best interests of the Missouri State Medical Association for members to publish articles or papers in medical journals which are not in sympathy with the purposes of this organization; and further

Resolved, That members are hereby requested to cease publishing original articles or other matter in journals whose advertising pages contain fraudulent and questionable advertisements and to give loyal and constant support to the Journal of the Missouri State Medical Association.—*Jour. A. M. A.*, Aug. 31, 1912, p. 735.

THE HABITINA FRAUD.—The promoters of habitina, R. C. Prewitt and Rayland C. Bruce, constituting the Delta Chemical Company, were fined \$2,000 and sentenced to five years at hard labor in the United State penitentiary. Habitina was one of those vicious mix-

tures containing large amounts of morphine which are sold to drug addicts but which instead of curing substitute slavery to a high-priced, fancy-named, morphine mixture for that of which the simple opiate itself. In summing up the case the post-office inspectors, in their report, concluded as follows: "The conviction obtained in this case has terminated one of the most pernicious and outrageous frauds ever perpetrated on a credulous public, who were not only defrauded out of large sums were made maniacs—how many died under \$2,000 each, but were robbed of health of body and mind; some were rendered blind and some were made maniacs—how many died under the 'treatment' will never be known—but, taking their own testimonials as a source of information, four out of eight have died drug addicts, and out of the thousands of persons they have treated but one witness could be produced by the defendants to testify in behalf of this drug having any remedial properties whatever. These defendants deliberately fostered the most dreadful forms of drug slavery for their personal gain. They made no effort to cure the patient for the blood money thus obtained. They produced no evidence which would traverse the contention of the Government that the whole purpose of the defendants was to substitute for the slavery to the drug purchased by the habitue from the 'corner pharmacist' under the restrictions of state law, the slavery to the same and worse drugs purchased under a disguised name at many times a fair commercial price from the Delta Chemical Co."—*Jour. A. M. A.*, Sept. 7, 1912, p. 817.

NEWS ITEMS AND COMMENTS

The Burley Tobacco Society has purchased the property recently, for many years used by Dr. Sprague as a Sanatorium, for the treatment of mental and nervous diseases and liquor and drug addictions in Lexington. Dr. Sprague will not give possession, however, until late in the spring of 1913, at which time his new buildings on the Harrodsburg pike, just outside of the city limits, will be completed and occupied. The profession of the State will be glad to know that High Oaks is to be improved over its past high standard.

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ORIGINAL ARTICLES

THE ADAMS-STOKES SYNDROME.

(REPORT OF A CASE.)

By HENRY ENOS TULEY, Louisville.

The term Adams-Stokes disease was given by Houchard to a remarkable syndrome first described by Robert Adams of Dublin in 1827, by Wm. Stokes, who reported four cases. In Germany His and Hoffman, in France Houchard and Charcot, in this country Prentiss, Osler, Stengel and others have described the condition. This syndrome or heart block is an association of an intense bradycardia, vertigo, dizziness, nausea, syncope or epileptiform seizures.

It was formerly thought to be found only in patients of advanced years, but the literature shows a large number of young adults, below forty years of age.

Until comparatively recent years the etiology and pathology of this syndrome have been obscure, it being ascribed to fatty or fibroid degeneration of the heart, diseases of or injuries to the medulla, arteriosclerosis, especially affecting the coronary arteries and syphilis. Until careful dissection of the heart in connection with physiologic experiments was made by Kent in 1893 it was not known that a fibrosis of the bundle of His was present in practically every case, and the consensus of opinion to-day is that this degeneration is uniformly present in all cases.

The bundle of His is a small muscle 18 m.m. long, 2.5 m.m. broad, and 1.5 m.m. thick connecting the auricles with the ventricles. The auriculoventricular bundle is the essential or-

gan of conduction; the auriculoventricular impulses pass through this muscle starting in the auricles and passing over into the ventricles causing them to contract. The destruction of the bundle of His yields a uniform result, complete dissociation of the auricular and ventricular rhythms.

The experiments of Kent and His, confirmed by later investigators led to the conclusion:

(1) That the slow pulse of Adams-Stokes disease was due to dissociation between auricles and ventricles (heart block) and to the slow independent rhythm of the ventricles.

(2) That the syncopal attacks (Adams-Stokes syndrome) were due to the cessation of ventricular beat but not of the auricular beat*.

The symptoms are so uniformly characteristic as to be grouped under three heads: (1) the intense bradycardia, (2) the vertigo, syncope or epileptiform convulsions, (3) the dyspnea and pain present in the precordial region or below.

The pulse is uniformly slow, frequently falling to 20 per minute or below. Halbertson reports a case showing a pulse of 5 to the minute. The pulse usually is of high tension, between 150 and 180. The arterial tension, dyspnea and pain may be relieved by suitable medication but the bradycardia persists in spite of all remedial measures. The frequency is not increased by exertion of any kind.

Auscultation may show a faint systolic murmur, but usually none. There may be a visible pulsation in the right internal jugular vein inside the clavicle indicating auri-

*Hirschfelder: Diseases of the Heart and Aorta; Lippincott.

cular contractions that do not pass to the ventricles.

The vertigo may precede the bradycardia by a number of months becoming more pronounced, accompanied by syncope or mild epileptiform convulsions with one onset of the severe bradycardia. The skin is of an ashen pallor at the beginning of the syncope. Barr*, has noted that convulsions occurred when the pulse disappeared for 20 seconds.

The dyspnea may be severe and one of the most prominent of the subjective symptoms. This is usually accompanied by the precordial pain which is more or less a constant symptom.

The diagnosis of this condition should be easy, the syndrome described is so characteristic, but as in the case to be described other symptoms may so outweigh the syndrome as to focus attention to other possible conditions and lead the diagnostician astray.

Repeated syncope attacks, with or without marked bradycardia, should be a warning signal of the possible pathologic condition and the first evidence of bradycardia should make the diagnosis possible.

The prognosis is extremely grave. Cases have been reported as surviving for several years, but as in true angina pectoris a fatal termination is inevitable.

Hirschfelder* emphasizes the fact that complete heart block and Adams-Stokes syndrome are by no means synonyms; the former represents merely the dissociation of rhythms, while the Adams-Stokes syndrome brought on by cerebral anemia during ventricular stoppage is a totally different matter, and that heart block may persist for months or years without occurrence of the syndrome.

The Adams-Stokes syndrome may be present not only in the initial and not in the later stages of the heart block.

J. B., an attorney in Louisville on legal business, having driven himself most of the way in an automobile from Washington over the mountains and through the Shenandoah Valley.

The early life of this man was a very strenuous athletic one, and he was rated a splendid physical specimen. Meeting with domestic difficulties he lost his grip upon himself, drifted from bad to worse, finally landing in the Capitol where he became a motor-man, during which time he suffered a fractured leg. Recovering from this he took the civil service examination for a legal position in the Attorney General's office, applied himself very strenuously to his work, for several years, later severing his connection with the

department and assumed a number of intricate and important private legal cases which gave him but little rest or recreation. He was usually so wearied before his trip west, as to find it impossible to walk from his office to his residence, less than one quarter of a mile. I mention this as having some bearing on his subsequent history.

Soon after his arrival in Louisville his wife was taken quite seriously ill and added to this worry he plunged into the midst of depositions which kept him up at night. His work finished here he planned to leave for Chicago on July 2nd. On June 30th when about dressed for a dinner engagement he became very dizzy, things grew black and he fell on the bed unconscious and in collapse. I saw him within fifteen minutes, he had regained consciousness but was bathed in a profuse sweat. His heart's action was very slow, his pulse at times imperceptible, he was pallid, with considerable dyspnea, and complained of agonizing pain over the heart. A hypodermic of nitroglycerine, 1-100 grain, was given at once, with rapid improvement in every way. He was shortly afterward given 1-200 grain atropine for the leaky skin with beneficial results.

I left him comfortable in about an hour with an improvement in all symptoms. His wife was given some nitrite of amyl pearls for use in case of a recurrence of the symptoms. At five o'clock the next morning I was recalled hurriedly. He had slept well until a little before 5 o'clock, when his wife was awakened by his stertorous breathing. Hurrying to his side she found him ashen in color, no pulse to be felt, eyes rolled back with every appearance that he was dying. She gave him an inhalation of nitrite of amyl and called me. He had just recovered consciousness when I arrived. He complained of agonizing pain at the pit of the stomach, his pulse was 34, with no volume, but this slowly improved under a hypodermic of nitroglycerine, however much more slowly than the evening before. When he could talk he told of going to the toilet for a bowel movement, a sudden attack of vertigo came on with nausea, and he had difficulty in getting to bed, not knowing whether he had gotten to it or not. His temperature was subnormal by mouth.

At noon his temperature was 100 by rectum, his pulse 34 to 36 with much better volume. He still complained of severe pain over the pit of the stomach, was very tender below the ensiform and there was quite perceptible rigidity of the upper abdominal muscles. He had vomited a number of times a dark bitter fluid. So prominent were the symptoms referable to the upper abdomen, they so far outweighing the condition of the heart with the rise in temperature, it was believed that

*Mackenzie: Diseases of the Heart. Oxford University Press.

*Loc cit.

might be an acute surgical condition developed in this region, in spite of the bradycardia. He was seen at this time by Dr. Frank in consultation, who concurred in the opinion there might be an acute surgical condition in the region of the pancreas and advised his removal to the infirmary for closer observation. This was done by 3 p. m. He was very thirsty and drank large quantities of water which was soon vomited, until it was withheld entirely, and saline administered per rectum. His pulse remained at 36 per minute, and his pain under a hypodermic of 1-4 morphia before leaving the hotel was considerably improved.

At 7 p. m. he was seized with vomiting followed immediately by stertorous breathing, loss of pulse at the wrist entirely, which shortly before had been beating 24 times per minute. Oxygen and nitroglycerine were administered, artificial respiration continued for some time, with gradual return of consciousness, still complaining of pain below the ensiform. Between this and 9 o'clock he slept some, gradually growing more restless. At 9:05 he waved his hand to his wife and called to her he was all right, at 9:10 became very restless, gagged and retched violently, raised on his elbow, fell back rigid, breathed two or three times, and expired.

Consent was readily had to an autopsy, which was performed by Dr. Baldauf. The upper abdomen was first explored, with the following findings: a normal pancreas, much enlarged and congested liver and spleen, stomach contracted, kidneys and bowels normal. On opening the thorax a greatly enlarged heart presented, the pericardium was distended with fluid, the heart muscle was pale, and on gross examination an area was found with appearance of a gumma.

A closer examination was made of the heart by Mr. Wallace Frank under the supervision of Dr. Baldauf which revealed a fibrosis of the interventricular septum especially marked in the region of the bundle of His and a fibrosis of the papillary muscles. In one place in the heart wall there was what appeared to be on macroscopic examination a gumma. Heart valves were slightly sclerotic especially the semilunaris, the mitral and tricuspid. Ascending branch of aorta showed atheromatous plaques.

DISCUSSION.

Leon K. Baldauf: In the specimen I have brought here to-night a number of gummata are found in the wall of the left ventricle and beneath the endocardium in the intraventricular septum. The bundle of His was dissected out. As it passed in, it simply merged with this thickened, sclerotic area in the wall which separated the right from the left ventricle. Sections made of this area, which before the heart had been

fixed was distinctly elevated above the surrounding tissue, show a typical picture of gumma.

It is sometimes very difficult to make diagnosis of gumma of the heart. Loomis, of New York, who has done probably as good work as any one along the line of the histology of gumma of the heart, lays down three points for guidance in making the diagnosis. First, there must be definite cellular infiltration; second, there must be definite necrosis, and, third, there must be a marked endoarteritis. Sections of this heart show all three conditions. There is definite rounded infiltration with increase of young connective tissue; there is distinct necrosis of the cells and marked endoarteritis. In many areas there can be distinctly made out what are apparently giant cells, but I think these are nothing more than obliterated blood vessels.

I have brought here to-night, for purposes of comparison, two ox-hearts. I think the bundle of His was first demonstrated in the heart of a frog, but in a heart of this size it can be more distinctly demonstrated. In a recent article based on experiments carried out under Dr. White, at Harvard Medical School, the statement is made that the fibers composing the bundle of His have their origin in both auricles, but a large number of these fibers start in the superior vena cava. The coronary sinus reticulum merges with the main bundle of His. This main bundle passes through the wall of the intraventricular septum and gives off branches, one division being the right septo and the other the left septo.

J. Rowan Morrison: This is one of the most interesting papers that has been presented to this society for a long time, and Dr. Baldauf has given us a most beautiful demonstration of the bundle of His in a beef heart as compared with the human heart. As he stated, this bundle is very difficult to trace in the human heart, but in the beef heart it is comparatively easy. This bundle has to do with one of the most important functions of the heart action; namely, conductivity. According to Mckenzie, who has studied this bundle very thoroughly, these fibers start where the vena cava goes into the auricles, at what is called the Keith-Flack node. Then it extends down into the auricular ventricular septum, and from there into the ventricle, where it divides into the right and left branches. Erlöveer has demonstrated, in experiments on dogs, that by compressing the bundle of His, a certain amount of heart block could be produced. To understand this we must remember that the impulse begins in the auricle, which contracts first, and it is then transmitted through the bundle of His to the ventricle. Therefore, a certain amount of compression of these fibers will produce a proportionate amount of heart block. In other words, Erlöveer has found that the normal number of ventricular contractions is between 23 and 28 per minute and, as Dr. Hirschfelder has

pointed out, one may have complete heart-block without having the Stokes-Adams syndrome. This syndrome comes in where there has been enough contraction to allow a very slow ventricular contraction. In other words, there is not enough blood sent to the vital centers of the brain to nourish them properly, and as a result of this faulty nutrition, epileptiform convulsions and similar symptoms occur, and at the same time we notice that the jugular pulsation is out of proportion to the apex beat, or to the radial or brachial pulses. In heart blocks there is usually a definite ratio, sometimes 1-2, 1-3, or 1-4, whereas in auricular fibrillation we find pulsations that do not have any definite relationship.

It has also been brought out that we may have a slowing both of the auricular and ventricular contractions, as in cases of prolonged bradycardia, and these patients seldom or never develop the Stokes-Adams syndrome. These cases are the ones that live a long time.

In regard to the effect of heart block, many of these cases, where there is not a complete block, may live a long time, but when the Stokes-Adams syndrome develops, the patient will sooner or later suffer attacks of angina pectoris, which is usually followed by death in a comparatively short time.

Another interesting point is pain in the epigastrium produced by heart conditions, as evidenced by the condition of angina associated with Dr. Tuley's case. Neusser, in his monographs on angina pectoris, gives a description of angina quite different from that usually described in medical societies by local observers in times past. I have heard competent observers say that one attack of angina pectoris was almost sure to have a fatal termination, and that no one ever survived three attacks, whereas in this article Neusser says that these patients may live a long time, and that the manifestations may be in very distant parts of the body; for instance, through the vagus and the sympathetic nerve, pains may be manifested about the jaw and head. A number of his cases were supposed to be due to gallstones, and some to kidney stones. In some instances the pains were manifested in the lower extremities, the testicles and even the feet, showing how conditions of the heart, through the vagus and sympathetic nerves, may cause pains to be manifested in regions quite distant from the heart itself.

F. C. Askenstedt: I have thoroughly enjoyed Dr. Tuley's paper.

A great many theories as to the cause of heart block have been advanced, but I believe the one promulgated by Mackenzie is the most original and the one that is generally accepted to-day. As Dr. Morrison mentioned, heart block and Stokes-Adams syndrome are not synonymous terms, but they are very intimately connected. Mackenzie attributes Stokes-Adams syndrome to sudden interruption of the impulses traveling

from the auricles to the ventricles. If we take a frog's heart, or the heart of any other animal, and ligate the bundle of His, or interrupt the continuity of the bundle of fibres in any way, we find that the ventricles suddenly stop. Sometimes they will remain at a standstill, but more often, after a certain length of time, they will assume a new rhythm; a rhythm of much slower beat. Mackenzie says that the same thing occurs in the human heart when the bundle of His is impinged upon by scar tissue (as in the specimen shown), as a result of a syphilitic gumma, or from arteriosclerosis, or from rheumatic infiltrations, which are the most frequent causes. The impulse is suddenly arrested and the ventricles cease their activity; syncope occurs, resulting from the anemia of the brain, accompanied by unconsciousness, vomiting and, frequently, convulsions.

This, I think, is the most logical explanation of these symptoms. However, these cases do not all present exactly the same symptomatology. Three cases have come under my observation either just before or during the attacks, and each one presented a little different picture. In one case the patient seemed perfectly well. While sweeping his store one morning he was suddenly seized with the Stokes-Adams syndrome, and after that his pulse was never found above 40, showing that the conductivity of the bundle of His had been interrupted. He had one more attack of Stokes-Adams syndrome after that, but he is living to-day, nine years after the first attack.

In another case the patient became unconscious while sitting in a chair, and fell to the floor. When he regained consciousness his pulse could not be felt at the wrist for some time. Finally, 18 to 20 per minute could be counted. He had ten or twelve of these attacks and finally developed complete heart block, running a pulse of 26. That was five years ago and he also is still living.

The third case I saw showed on polygraphic tracing a lengthened interval between the auricular and ventricular impulses, which indicates threatening heart block and Stokes-Adams syndrome, and he developed several of these seizures. I suppose he had 14 or 15 attacks in all. I saw him in two attacks, each lasting about three minutes; with slow, irregular pulse, imperceptible during unconsciousness; and after I left the house he died in a third attack a few minutes later.

One point that is particularly valuable to us as clinicians is that we may induce heart block, or Stokes-Adams syndrome by the administration of digitalis or strophanthus. A patient with a tendency to heart block, or, in other words, where the impulse is delayed as it travels from the auricles to the ventricles, will run serious risk from the administration of any remedy of the digitalis group. There are many e that will

stand immense doses of digitalis without danger while in others it must not be given. The reason for this is that digitalis and other members of that group, which stimulate the pneumogastric nerve, also impair the conductivity of the bundle of His, so that where there is already some delay of the impulse, the administration of this drug will further impair its transmission, thus inducing the Stokes-Adams syndrome, and the patient may die in one of these attacks. If the graphic method of examining the heart has accomplished nothing else, it has certainly served a good purpose in enabling us to better ascertain the condition of the bundle of His before administering digitalis.

Carl Weidner: I think I saw a good many cases of this kind years ago and did not know what they were. The subject is a comparatively recent one.

Dr. Tuley has given us a thorough resume of the subject and has brought out several points of interest. He says that the diagnosis is easy. Where we have a typical picture it is easy to make up our minds that we are dealing with the Stokes-Adams syndrome, but it seems to me that in many cases the symptoms are so illy defined as to give rise to considerable doubt. Last year I saw a man from another city, who had normally a very flushed red face. He gave a typical history of these attacks. He was a business man, and while walking about his store he would suddenly suffer an attack of vertigo of slight degree and then lose consciousness. This lasted only a few moments and his face would become very pale temporarily. After lying down for a while he would regain his normal condition and color. This man tells me that sometimes when he feels these attacks coming on, he has an inclination to walk. That is a very interesting feature to me.

Another point of interest is that we sometimes see symptoms of this kind in connection with organic diseases of the heart, in cases where the bundle of His is not directly affected by some disease, such as syphilis, or some infective process. In lesions of the valvular orifices, sclerosis, etc., I believe we may have involvement starting here, and extending deep enough to affect the bundle of His, producing, secondarily, the typical Stokes-Adams syndrome.

During the present year I had a very interesting case in which diagnosis was made of myocarditis complicated by nephritis, and I was positive that I had to deal with a pericardial effusion, which on five different occasions I tried to tap without results.

As to the administration of digitalis, if digitalis may cause partial heart-block, as is admitted by some authors, it teaches us one lesson; that in these cases it is a dangerous remedy, no matter whether the condition is purely neurotic or whether we have an organic disease of the bundle of His. Possibly it should be given in very

small doses, but I do not see any reason why we should give digitalis in any case where we have a very slow pulse—say 28 to 30. We might consider combining with it some other appropriate drug to offset the bad effects of the digitalis. However, it would be better in these cases to give some preparation which does not have a bad effect upon the bundle of His by lessening its power of conductivity.

SCIATICA AND TREATMENT.

By J. W. TURNER, Malott.

I have several reasons for selecting sciatica and treatment as my subject for this paper. One of them is that sciatica is the most frequent and severest form of neuritis that we are called upon to treat and usually considered the most stubborn to yield to treatment. Another was that this seemed especially so with me in my first years of practice, and that for the last few years I have been having better success than formerly with a very simple treatment.

Finally, so far as I know, this society has not had a paper on this subject. Sciatica is the most common and severest form of neuritis. It may be a functional neurosis or neuralgia. It occurs in adult males most frequently. In my practice the relative proportion of cases being as seven to three.

It very rarely occurs before the age of twenty and rarely after the age of sixty, though I have had a case in a young man only seventeen years of age and one old man over seventy. In my cases it occurred most frequently in the right limb.

Osler and some other writers say a history of rheumatism or gout is present in many cases, but I have never found either in my cases. I have often noticed persons exposed to cold, after muscular exertion, having an attack of sciatica, which acted, I think, as an exciting cause. Death from sciatica is rare if ever. I do not think we have any evidence as to the cause of the disease from an examination of the sciatic nerve after death. The very few cases that have been examined, either after death or in stretching of the nerve, give us very little information in a scientific sense. It does not show the real cause of sciatica. So I am free to admit that I do not know anything about the etiology of sciatica unless it is when we have a symptomatic or secondary sciatica, caused by pelvic tumors, pregnancy, enlargement of the retroperitoneal lymphatic glands or of accumulation of feces or foreign substances in the sigmoid flexure.

But this kind of cases has been so small with me that I doubt our having very many cases of symptomatic or secondary cases.

I am about ready to believe that we have

a specific cause for sciatica though I have no scientific reasons for so believing.

SYMPTOMS.

Pain is the most common and constant symptom. The character of the pain is sometimes described as burning and sometimes as a sensation of coldness. The patient feels as if a current of hot or cold liquid were flowing in the course of the afflicted nerve. At the beginning of the attack pain may be severe with or without fever, (generally without), but usually it comes on gradually and for a time there is only slight pain in the back of the thigh, particularly in certain positions or after exertion; soon the pain becomes more severe and extends along the course of the nerve even reaching down to the foot and radiating over the entire distribution of the nerve. Sometimes the pain is referred to circumscribed spaces which are tender on pressure. Painful and tender points in this affection are found in more or less of the following situations: on the sacrum, over the sacroiliac junction, at the sciatic notch, on the thigh along the curve of the nerve, in the popliteal space, over the fibula and on dorsum and outer portions of the sole of the foot.

The points situated at the sacroiliac junction behind the trochanter major and at the head of the fibula are most frequently the most painful and tender. Pressure with the finger upon some of those tender points may not only be very painful but excite a paroxysm of pain extending to other parts in the course of the affected nerve. The intensity of the pain varies much in different cases. The movements of the affected limb in some cases, occasion such an amount of suffering that the patient remains in bed keeping the limb as quiet as possible. In other cases the patient is able to walk but with more or less difficulty, pain being felt especially when the weight of the body falls upon the affected limb, and relief is found in the use of a cane.

In the first twenty years of my experience with sciatica I found the duration and course extremely variable and, as a rule, an obstinate affection, lasting for months or even, with slight remissions, for years. Relapses are not uncommon and the disease relieved in one nerve only appears in the other.

In the severe forms the patient becomes bed-ridden, and such cases were the most distressing and trying that I have been called upon to treat. The diagnosis of sciatica involves its discrimination from muscular rheumatism, and from affections of the hip joint. Muscular rheumatism, here as in other situations, differs from sciatica in the limitation of pain to the affected muscles, in diffus-

ion of tenderness over a considerable space, namely, a space corresponding to the muscles affected, and in the fact that paroxysms of pain are excited exclusively by movements of the muscles affected. Hip joint affections are distinguished by the pain in the hip being produced by pressure upon the great trochanter and by flexion and extension of the thigh. Then we would have more fever and general debility with the local symptoms, pointing to the existence of inflammation within the joint.

TREATMENT.

When I began the practice of medicine I treated cases of sciatica with the general treatment laid down in the text books that I had. I began with the idea that sciatica was a constitutional disease, either syphilis, rheumatism, tuberculosis or something of the kind. I gave my patients calomel and salts, followed up with iodide of potash, or sulphate of quinine, or if I had a rheumatic suspect I would give the salicylates as long as the patient could stand to take them. To some I gave strychnine and to some I gave Fowler's solution or arsenic and different preparations of iron. To some others, during an attack, I would give all of these drugs. To relieve pain I have given all forms of opiates internally and hypodermically. I have used morphine, atropine, as well as cocaine; I have tried antipyrine and acetanilid—all these and more could be named with only temporary relief. Locally, I have blistered; used counter irritants of most every kind such as chloroform, turpentine, etc., and every kind of hot applications, even hot lime poultices. I have never used deep injections of alcohol or chloroform or the galvanic current.

This was my routine for twenty years and was very unsatisfactory to me and to my patients, and during that time I treated fifty of them.

It is true that none of them died outright, but some of them thought they would and some said they did not care how soon they did if they had to continue to suffer so much. All of them were slow in recovering: none of the fifty were able to work under six weeks and the majority were incapacitated for months and one or two for years, while several were bedridden and practically helpless.

I am very glad to say that during the last six years my sciatic patients (and I have had twenty-seven in that time) do not have to suffer so long from the beginning of the treatment that I now use. They are up and able to work in ten or twelve days. I have had no relapses or remissions except in two cases and both of these quit taking the

medicine without advice but when they resumed the treatment as directed they were able to work in another week.

I will give a report of three cases treated as I have been treating sciatica for the six years mentioned. The final results of all of the last twenty-seven cases practically parallel these reports.

CASE I.

Mrs. M. A., age 32; mother of four children; of nervous temperament and never robust; mother died of tuberculosis; father living and in good health. I was called on May 19th, 1908, on account of pain in the back and right limb. I found her without fever, pulse 80, no appetite, constipated, urine high colored and scanty, feet and legs slightly swollen; she kept her bed most of the time on account of the pain. On examination I learned that she was pregnant (six months) and thinking that was possibly the cause of her discomfort I did not examine the leg very closely and failed to make a correct diagnosis. I gave her a laxative, some lithia tablets and strychnine sulphate gr. 1-60 every four hours, and instructed her to call me in a few days if no improvement was obtained.

May 22nd, I was called again. The laxative had acted satisfactorily, kidneys acting better, still no fever, no appetite and unable to sleep on account of the pain in the right leg. This was so severe that she frequently would get up with assistance in order to change the position, but could not bear any weight on it. After a closer examination I made a diagnosis of sciatica. I had never used this treatment on a pregnant case but not wishing to use opiates to relieve the pain and as she had already used hot applications without any relief, I decided to try the same treatment I had been using with success in other cases. I put her on powdered guaiac gr. 5, every three hours for twenty-four hours then every four hours for three days. The first night she slept fairly well and in four days she was able to be up with but little discomfort in the leg, and appetite was much improved. She continued her medicine every four hours until June 1st, when I discharged her as completely cured, as she was able to be up and go about her work without pain; had a good appetite, bowels regular and the swelling was gone out of her feet and legs. She was able to be up the last months of her pregnancy and was delivered of a fine, healthy baby girl in August. This is the only pregnant patient having sciatica that I have ever treated, and I don't think that condition had any connection with her sciatica.

CASE II.

Mr. R. A. P., age 61, farmer. Family history and previous health good. Making his

own diagnosis of his case on March 17th, he telephoned me to send him some medicine for rheumatism. I sent him six 1-2 grain tablets of calomel to be followed by salts and twenty 5 grain capsules of sodium salicylate to be taken every three hours with a glass of water.

On the 18th, I went away from home and was gone three weeks. During my absence my patient grew worse and as the medicine did not do him any good, he decided to treat himself. He took poke-root in whisky internally and treated the affected limb with all kinds of hot applications such as cloths wrung out of hot water, hot poultices, Sloan's liniment, etc.

This kind of treatment he kept up until May 1st, getting worse all the time. At this time he sent for me to come and see him. I found him suffering with agonizing pain along the course of the right sciatic nerve, the usual tender points on pressure with fingers, neither able to walk or stay in bed without pain, not sleeping much at night, having to get up and change position to get some relief then back to bed again; his pulse was eighty-five, no fever, not much appetite, constipated, urine high colored and scanty.

There being no symptoms of rheumatism of any kind, I diagnosed the case sciatica and so informed my patient and I also told him I thought he would be up and well in a week.

TREATMENT.

As the patient was constipated I first gave him epsom salts, teaspoonful doses every four hours until his bowels moved and put him on powdered gum guaiac every three hours for twenty-four hours, then every three hours just through the day time with as much as a table glass of water, with each dose. The second night he slept all night only getting up once and that to urinate; by the fourth day he could walk around the room with very little pain, sleeping well and appetite better, bowels moving without purgatives. The patient continued improving and by the tenth day of May was going around everywhere without any pain whatever, so I dismissed him as cured and he has remained so since.

CASE III.

Mr. L. H., age 24, married, strong and robust looking; family history very good. Came to see me limping and walking with a cane, on June 2nd, with the following description of his case: Sometime in the spring (April he said) while he was grubbing, his back began to hurt. He thought it was due to the kind of work he was doing, but later on it gradually began to hurt in the hip and down the right leg. He said he thought it was rheumatism then, but still tried to work, but on account of the pain finally had to quit.

I found him with no fever, pulse good, bowels regular, appetite fairly good but on examination of the affected limb, was able to trace the sciatic nerve the full course with my fingers, it being tender almost the entire course. Diagnosis, sciatica. I gave him thirty 5 grain capsules of powdered guaiacum to be taken one every four hours through the day with a glass of water with each dose.

He returned in one week entirely free from pain and could walk as well as ever. He was dismissed and has been at hard work ever since with no return of the trouble.

These cases serve to illustrate the plan I have followed and the results secured. I have no explanation to offer as to the action of guaiac in these conditions but I submit the effect has been, at least, satisfactory.

DISCUSSION.

S. E. Woody: In regard to the use of iodid and salicylic acid in the treatment of sciatica, I would suggest to the essayist that he use some one of the preparations of iodid and salicylic acid which are insoluble in acid menstrum, pass through the stomach unaltered and dissolve slowly in the alkaline secretions of the intestinal canal. There are various preparations of this kind which are well known, and so satisfactory are they that I have not used any soluble iodides for several years. As a result none of my patients ever complain of gastric irritation, and still the good effects are most pronounced.

J. T. Windell: As the essayist has stated, the etiology of this condition is rather obscure in a great many cases. In my practice I encounter quite a number of cases with pain in the region of the sciatic nerve which is a referred condition from a chronic posterior urethritis, generally of gonorrheal origin. I had a patient in my office this afternoon who gave a typical description of the pain of sciatica, and his trouble is due solely to a neglected gonorrhea.

J. G. Carpenter: To me this is a most interesting as well as a painful subject. I am just over an attack of sciatica. I walk with a big stick—not to hold the sciatica down, but myself up.

What is sciatica? Is it a neuralgia or a neuritis? Is it of mechanical origin or reflex origin? If a neuralgia, is it due to anemia or is it due to congestion? Or is it due to some constitutional dyscrasia? Often I have seen it due to syphilis, often to malaria, and often of reflex origin. If it is not a neuralgia, is it a neuritis? Is it chronic, acute, or sub-acute? Did the trouble start in the end neuron, peripheral neuron, axis cylinder, or where? According to its cause, so should the treatment be. I have seen it due to a chronic urethritis, of gonorrheal or rheumatic origin, and by removing the local cause you cure the sciatica. I have seen it due to hemorrhoids and rectal ulcer. By

divulsing the sphincter and curing the rectal ulcer with thorough local treatment, you cure the sciatica. I have seen a great many cases of rheumatic origin, with the urine loaded with uric acid, and in such cases you should push your anti-rheumatics until you keep the urine alkaline for 24 to 48 hours.

I have seen cases of sciatica due to malaria, with exacerbations at certain times of the day, with very acute pain, which would disappear only to return again and again. I had that experience in my own case. First I thought it was rheumatic in origin. Then I developed that malarial periodicity.

The question is, what shall the treatment be? Rest—complete rest in bed, even if you have to put on a splint from the sole of the foot to the axilla, just as you would in a fracture. It may be well to flex the limb and put a pillow or a sandbag beneath it, as you would in a fracture. From a medicinal standpoint, hypodermics of morphia and atropia, with complete rest, will cure many of these cases. In some cases I have injected from five to ten drops of sulphuric acid. I had this done in my own case with most beautiful results in the way of freedom from pain.

Again, when we have cases in which there is a neuritis, what is to be done? Fortunately, we can have the nerves stretched. I did this operation in one case where the nerves were bound down by adhesions from a gunshot wound in the thigh, and another from traumatism in the knee. In those cases the nerve-stretching operation was a dernier resort. I used cautery, hot and cold douching, counter-irritation, and actual cautery, and yet I found that all of these things failed, and by nerve-stretching these patients I added years of comfort, happiness and joy to their lives. In one of these patients that I operated on in 1882, the nerves were so drawn that he had to walk in a stooped position. I straightened the limb out and within a year he was able to walk all over his Bluegrass farm.

Andrew Sargeant: I wish to compliment the essayist upon having given us an original paper, but so far as his therapeutics are concerned, I think if he continues to administer treatment as I understood him to delineate it, he will meet with cases in which it will fail him as it has failed others. In dealing with sciatica you must not treat the name; you must treat the condition. It may be a traumatism; it may be a toxemia; it may be a neuritis; it may be a spinal trouble; it may be a peripheral trouble; it may be due to bacterin, and it may be due to toxins. You must find the condition that is responsible for it. The people who are unfriendly to us—the psychopaths and osteopaths, have a remedy called "Spondylotherapy" which has done a great deal of good in these cases. In all these cases we must look for the cause and treat it.

Jno. G. Cecil: I regret that I did not hear all of the paper, as I was called out. Several of the

gentlemen, however, have spoken very wisely in saying that sciatica is of many origins and, if possible, we must discover or uncover the cause and treat it as we would any other similar condition. After all, that is the only rational treatment that we can employ. However, in many cases, we will be unable to discover anything that can be assigned as the cause. I may say that I have never tried the treatment suggested by the essayist. All treatment will fail in certain cases. These cases become notoriously chronic, go from one doctor to another, from the doctor to the half-doctors, and finally get into the hands of all sorts of charlatans and quacks. And, strange to say, they many times get relief. I believe the osteopath has cured many of these cases. While I am not in any sense an advocate of osteopathy, it is undoubtedly true that in many cases massage and muscular movements will break up the adhesions and relieve them. I have once or twice suffered from a mild form of this disease myself. I went to see Dr. Vance and he got out some soldering irons and ran them up and down my spine and on my hips and told me I was cured. When I left there I was much more limber than when I went in, but even that sometimes fails.

In recent years I have been disposed to treat these cases where we cannot assign any definite cause for the trouble, along the lines of elimination, and to that end have generally advised my patients to go to certain water-cure establishments and take sweat-baths, etc. I have more faith in that line of treatment than in any other. Of course, there are a great many things that will relieve these patients temporarily, but many cases are obstinate and recur every time they are subjected to exposure to cold or dampness. I have seen better and more permanent results from sweat baths than from any other line of treatment. If you wish, you can combine with this eliminative treatment; also the so-called curative treatment, iodide, salicylates, etc.

The last case I had was a mean one. This was in a comparatively young man, 35 to 40 years of age. I exhausted every remedy I knew of, most of them with no effect whatever. A masseur with electrical apparatus, treated him for quite a while. Finally I sent him to a water-cure establishment and he made a perfect recovery. For a case in which the cause cannot be diagnosed, that is the treatment I would suggest. Of course, cases of malarial or syphilitic origin should be treated with reference to that particular condition. If you can find a focus, such as Dr. Windell and Dr. Carpenter say they have found, the treatment should be directed accordingly. Remove the cause and the sciatica will take care of itself.

OBSTETRIC ANESTHESIA.

By THOS. K. VANZANDT, Louisville.

A hurried review of the recent American and foreign medical journals at my disposal has impressed me with the fact that the trend of the profession is toward greater care in the selection of anesthetic drugs for certain classes of cases and much more attention to the details of administration. We welcome most heartily this awakening and believe it is high time for the specialist in anesthesia to be accorded his place among the specialists. Since it is our misfortune that the ideal anesthetic has not been discovered, the anesthetic that "abolishes pain by the abolishment of consciousness but without danger to life," it is very gratifying to know that some consideration is to be given the "man behind the gun."

It is conceded that when the physical condition of the patient permits the performance of an operation, it permits of the giving of an anesthetic and in selecting an anesthetic the particular case in hand and the indications to be met must always be considered. This applies to obstetrics as well as general surgery. Normal and operative deliveries are surgical procedures. The indiscriminate, and I may add, careless use of such an active drug as chloroform in obstetrics is to be discouraged. The specialist is needed in this field as surely as he is needed in general surgery, even though we believe the pregnant and parturient woman enjoys a certain immunity.

Arguments have been advanced for and against the free use of anesthetics in obstetrics, but we believe they are justified by both humanitarian and scientific grounds and advocate their employment in all labors.

The selection of the drug to be used is and has long been a favorite subject for debate. The anesthetic must possess the one important requisite upon which the whole of the practice of anesthesia in obstetrics is founded, viz.: to relieve the physical suffering of the patient without interfering with the muscular contractions of the uterus. Of course, in obstetrics, if surgical and not obstetrical anesthesia is indicated, the choice is governed by the same rules that obtain in the absence of the pregnant condition.

The days of narcotic potions and mysterious concoctions to relieve the suffering of a woman in labor have passed and widely advertised hypodermic tablets "for painless labor" will not be discussed. Don't believe nitrous-oxide alone or with oxygen is indicated. Intraspinal anesthesia not practical because of technique necessary and interference with uterine contractions. Chloroform and ether are the two anesthetics that have

given satisfaction. Our consideration will be limited to these two drugs.

By obstetric anesthesia we mean an analgesia, a semi-consciousness, a numbing of the sensibility to pain. This fact must, to some extent, influence us in the choice between chloroform and ether. Which will secure this state with the greater dispatch, with the least inconvenience, with the greater safety to the patient, with the minimum amount of the drug used, and the better end results? The rapidity of action, the question of convenience, and the amount of drug used, are practically of minor importance. Our whole thought should be for the patient's safety at the time and afterwards, the end results.

Clinical experience has proven that ether is unquestionably the safest anesthetic known to-day for prolonged anesthesia.

Hare says: "Ether, when properly administered, will be found to have few contraindications and should be employed in preference to chloroform in every case in which it is possible." Most of the objections to ether are due to faulty administration. Its toxic and dangerous effect is upon the respiratory centers, while it has a stimulating action on the heart. The dominant action of chloroform on tissue is depressing. Its toxic action is chiefly upon the heart through the coronary arteries or through the vasomotor system. The alternate relaxations and contractions of the uterus, the labor pains, have a stimulating effect upon cardiac innervation and help to prevent syncope. The tendency of anesthetics is to produce anaemia of the brain. Labor pains give rise to an engorgement of the brain and the physiological anesthesia attendant upon this cerebral congestion contributes to increase the safety of chloroform as well as to diminish the amount of the drug required. Then, too, we must consider the marked hypertrophy of the left ventricle during pregnancy and the recumbent posture which the woman naturally assumes during delivery. Chloroform is pleasant to take and acts quickly. Ether is unpleasant to take and acts slowly. Chloroform, unlike ether, is not inflammable and can be used better at night without danger from light and fire; most labors occur at night. Vomiting before and after delivery is an objection to ether, but the vomiting after delivery is transient, severe and prolonged vomiting more common when chloroform is used. Both chloroform and ether lower intrauterine pressure in obstetric narcosis. In surgical anesthesia chloroform paralyzes the uterus or lessens the power and frequency of its contractions more than ether. Owing to the fact that the patient recovers quickly from chloroform, it is necessary to administer more of the drug to pro-

long the narcosis while under ether consciousness returns more gradually and it is possible to repair a laceration without more anesthetic. Prolonged administration is not only injurious to mother but is likely to be fatal to the child. Post-partum hemorrhage and uterine atony more frequent with chloroform for the reason that it takes much longer for the uterine ganglia and musculature to recover.

Much attention has lately been called to post-anesthetic poisoning. It may occur after any or all anesthetics. It is believed to be more frequent after chloroform and is often referred to as delayed chloroform poisoning. We have very little knowledge as to its cause and prevention. The condition is an acid intoxication. Fatty degeneration of the liver is a constant feature, probably the direct result of absorption of chloroform or poisons derived from its metabolism from the bowel. The liver is the central organ of metabolism; its cells constantly transform injurious and irritative material into comparatively harmless substances to be eliminated from the system. Pregnancy imposes an extra burden upon the liver, the synthetic function of its cells is interfered with. Every pregnant woman is therefore more or less toxæmic. The cells, failing to perform their function of transformation, are acted upon by these toxic substances and undergo fatty degeneration and necrosis. Chloroform increases these pathological changes more than ether. Most all authorities have insisted that chloroform was the choice in eclampsia. Eclampsia is chiefly an hepatic toxemia. It would seem that ether was the lesser of the two evils and preferable.

The indication for obstetric anesthesia is severity of the pains. The administration should be delayed as long as possible and confined principally to the second stage, the object being to prevent a protracted anesthesia. Chloral or opium much better to hasten the dilatation of a rigid cervix in a prolonged first stage. Partial anesthesia given during the pains, even in the first stage, is frequently very useful. The reflex influence of the pains will often delay the progress of labor in a sensitive, nervous woman who cannot stand pain. This partial anesthesia also helps in cases in which the contractions, while very painful, accomplish very little.

In the second stage the relief from the severity of the pain will many times bring forth voluntary efforts on the part of the patient. In the latter part of the second stage, when maximum distention of the vulva is reached, obstetric anesthesia is not sufficient to abolish pain. The drug should be pushed to the surgical degree for the few moments the head is passing the vaginal outlet. The woman is thus saved a great amount of unnece-

sary pain and the danger of perineal laceration is diminished. In ordinary cases use the anesthetic only during the pains and in quantities only sufficient to dull the pains, complete anesthesia being carefully avoided. Stop administration at completion of second stage (except, of course, when surgical procedures are necessary) for the patient does not appear to enjoy the same immunity after birth of child.

The importance of the psychological factor in obstetrics must not be lost sight of. More suggestion and less anesthetic means fewer forceps deliveries and lacerations.

CONCLUSIONS.

1. Anesthesia during labor diminishes pain and in certain cases aids in the progress of labor.

2. By relaxing the tissues aids cervical dilatation and preservation of the perineum.

3. Prolonged administration certainly tends toward uterine inertia and is not without a deleterious influence upon the child.

4. An anesthetic, if not pushed too far, has no influence on the power, duration, or frequency of the pains.

5. Ether in obstetric practice when pulmonary complications are absent.

6. Uterine atony and post-partum hemorrhage rare following ether anesthesia.

7. Ether should be used in eclampsia.

8. Ether safer than chloroform and danger of post-anesthetic poisoning rare.

9. The use of chloroform in obstetrics will be almost entirely discarded in the near future.

DISCUSSION.

Ben Carlos Frazier: Dr. VanZandt's conclusion as embodied in the last paragraph of his paper is somewhat of a surprise to me. As the discussion proceeds, I would like to know who, among those present, have discarded chloroform for ether in obstetric cases. I have done a fair share of obstetrical work and I think every woman in labor should have chloroform, and I do not believe we can do much harm by beginning it early. As Dr. VanZandt has said, it will sometimes prolong the labor somewhat, but that is about the only harm that can come from the administration of chloroform in labor.

I have seen but one case of eclampsia and I had to handle that alone, except for a negro nurse. Nevertheless, this patient made a good recovery in a comparatively short time.

I have never seen ether used in obstetrical work under any circumstances. I have given the anesthetic in five or six cases in which Cesarean section was done, and a good many times for other men to do forceps delivery. I have also made five or six forceps deliveries giving the anesthetic myself.

I would like to mention a case that I heard of

recently. During the recent Christian Church Convention, there was a doctor here from abroad, a missionary, well known to a good many people here in Kentucky, who, on two different occasions, delivered his wife of a child by Cesarean section, without assistance, using chloroform as the anesthetic.

I do not believe chloroform will ever be discarded for ether in obstetrics.

I have never been able to bring myself to the point of using morphine hyoscin and eactin tablets, hypodermically, in obstetrical work, but I have talked to men who have used them quite a great deal, and they were very much pleased with them.

Bernard J. O'Connor: I was especially interested in the conclusion reached by the essayist in the last paragraph of his paper, that ether will displace chloroform as the anesthetic in obstetrical work. Some four years ago, by force of circumstances, I had to use ether in a case of this kind, and since then I have frequently employed it. As a matter of habit, I often find myself using chloroform, but the effect of ether is equally as good, and possibly better in some cases than chloroform.

Dr. VanZandt mentioned the danger of using chloroform in a room where there is an open fireplace or a lighted gas jet. I do not believe there is much danger from this source unless the ether itself is permitted to come in close proximity to the flame. Ether is not as volatile as benzine or gasoline.

Just one word in regard to the statement that chloroform should not be used in the presence of eclampsia. We must remember that in eclampsia the blood pressure is extremely high, and that the use of ether will, in all probability, increase the blood pressure. For that reason I should think chloroform would be safer in these cases. The etiology of puerperal eclampsia is still unsettled. In many cases it is probably due to a renal toxemia, while in others it is possibly of hepatic origin. Those cases of renal origin would be more irritated by ether than by chloroform, in addition to the influence of the ether on the blood pressure.

Emmet F. Horine: I have certainly enjoyed Dr. VanZandt's paper and he has voiced the sentiments of those engaged in anesthetic work.

In regard to those cases showing albuminuria and certain other symptoms of intoxication during pregnancy, I think the safest anesthetic would be nitrous oxid. Chloroform would certainly be contraindicated on account of its toxic action on the liver and kidneys. Ether could be used but it is not so free from objection as nitrous oxid. We know that following the administration of nitrous oxid, there are never any symptoms of intoxication since nitrous oxid has no effect upon either the heart, liver or kidneys. In obstetric anesthesia, it is only necessary to produce an analgesia, so to speak, and nitrous

oxid will certainly produce this to a sufficient degree. It has been used by quite a number of men, and in those cases showing a nephritic or hepatic condition during pregnancy, nitrous oxid should be used.

Just a word in regard to the use of chloroform in eclampsia. It must be admitted that the blood-pressure is extremely high in eclampsia and the reduction in pressure produced by the chloroform would not be of itself very dangerous. But the factor that should be considered is that chloroform is an exceedingly toxic agent. In eclampsia the liver and kidneys are involved and to administer chloroform in this condition would be to add fuel to the flames. Very likely, in the majority of cases, chloroform will produce an acute atrophy of the liver with fatty degeneration, and in a day or several days the patient will die from acute intoxication. Chloroform produces a central necrosis of the liver macroscopically somewhat similar to phosphorous; although, microscopically, phosphorous attacks the protoplasmic portion of the cells, whereas chloroform affects the nuclear. I think the consensus of opinion is that chloroform should be discarded in eclampsia, and ether, or if possible, nitrous oxid administered.

In uncomplicated cases in which only analgesia is desired, chloroform in minimum amounts might be used, although personally, I consider ether preferable. For the various obstetrical operations and manipulations in which deep anesthesia is necessary, ether should be used. In the toxæmias, nitrous oxid should be first considered and if impossible, ether should be selected. The last conclusion of Dr. VanZandt, that it is only a question of time until chloroform will be discarded in obstetric work, is, I think, absolutely true.

C. H. Harris: I think the proof of the pudding is in the eating thereof. I have delivered probably 700 children, and have used chloroform in labor possibly 500 times, and I have yet to see the first woman die from the effects of chloroform. In labor under ordinary circumstances, we give a little chloroform towards the end of the labor. There is a vast difference between intermittent and continuous anesthesia. When we give good, fresh chloroform in which there is no free chlorine, it does not do any harm. I believe that nitrous oxid gas, under some circumstances, is a good anesthetic, but why not consider the babies? If an adult becomes cyanosed under the administration of nitrous oxid gas, due to depriving the blood of oxygen, why would it not affect the baby the same when administered to the mother. Ether is a good anesthetic when we want complete surgical anesthesia, and there are no contraindications to its administration, but in approximately 700 cases I have my first time to see a woman die from the effects of chloroform anesthesia in labor, and I believe it is a mistake to teach the younger men that

chloroform is dangerous under these circumstances.

Virgil E. Simpson: Just a word in regard to the hyoscin-morphin-cactin tablet which is put out by one of the prominent drug houses of this country. I have never been able to convince myself that this particular combination will accomplish what its manufacturers claim for it; in other words, that the combination of these three agents by that particular house will accomplish any more than if we administer morphin and hyoscin separately in different parts of the body. You may administer a similar amount of morphin in one arm, and a like amount of hyoscin in the other arm, as is contained in these tablets, omitting the cactin, and the results will be equally as satisfactory so far as analgesia is concerned. It has been demonstrated beyond question that cactin is absolutely inert in the quantity contained in these tablets. I have personally taken it and I have used it on the lower animals and have been unable to detect any circulatory influence whatever.

The practice of giving agents to relieve a woman during labor has always appealed to me. If there is any time in the world when a woman has my absolute and unqualified sympathy, it is at the time of childbirth, and I am an advocate of the use of measures which are reasonably safe to tide a woman over this period with as little discomfort as possible. If we are to dispense with chloroform because our ancestors for countless generations have been giving birth to children without chloroform, we had just as well say that it is unwise and unnecessary to advise our patients to remain in bed for a reasonable time after delivery because our aboriginal female ancestors, on the line of march, carrying their agricultural implements, simply squatted down in the leaves when the time arrived, gave birth to a baby and then continued the march. The woman of the 19th century is not constructed after the fashion of her ancestors. Because of the changes brought about by civilization, difference in dress, etc., she is not capable of sustaining the conditions incident to delivery at full term in the same manner as some of her ancestors that we have heard about.

The question of the safety of any anesthetic is dependent upon the degree of concentration in which it is administered. Chloroform is just as safe as ether and *vice versa*, in the respective degrees of concentration necessary to produce a definite degree of anesthesia. The concentration percentage of chloroform necessary to secure that degree of anesthesia is one thing; that of ether is another. Going beyond either of these concentrations is just as dangerous in the one case as in the other. Both affects the nerve cells because of the affinity which the nerve cells have for these agents. Chloroform kills, not because of fatty metamorphosis of the liver, kidney, or

other structures, but as a direct result of vasomotor paralysis. The after-effects of chloroform are far less frequently observed than are those of ether, because the effects of the latter agent are apt to be manifested over a longer period after its administration. If we administer ether in an obstetrical case, we cannot be sure, after twenty-four hours have elapsed, that our patient is going to make a recovery. That is less true of chloroform than ether. Ether is more apt to produce fatty metamorphosis of the liver and other structures than is chloroform. However, it is the degree of concentration that determines the safety of any anesthetic. Properly and judiciously given, the outcome after the administration of either chloroform or ether will be equally satisfactory in practically all cases. It is because of the fact that we have no accurate means of gauging the concentration that disastrous results occur. When we administer such agents as atropin, hyoscin, morphin, or hydrocyanic acid, we know how much to give our patient, and we allow a definite time to elapse between administrations; but in administering an anesthetic at the bedside, oftentimes the doctor himself attending to this as well as to the delivery of the woman, it is absolutely impossible to keep up any definite degree of anesthesia. The patient will lapse into the obstetrical degree of anesthesia at one time, and five minutes later the doctor will discover that his patient is coming out and will push the administration in order to get his patient back under the influence, and she will probably lapse into the surgical degree of anesthesia. There is no regularity about it.

I have been quite fond of using chloral hydrate in certain stages of labor, particularly in primiparae, where I have to deal with a patient that is nervous and apprehensive, where there is evidence of an indisposition on the part of the cervix to relax, and the labor is consequently not making satisfactory progress. In such cases, under the administration of a small dose—say four or five grains—of chloral hydrate, per mouth or per rectum, it is wonderful what a change takes place in four or five hours. The cervix is relaxed and dilated; the patient is less apprehensive, and a great deal of progress has been made.

I am convinced that in the average case, under ordinary circumstances, an anesthetic is indicated in the lying-in room.

Wm. Keller: I agree with Dr. Simpson in a great many of his remarks. I have never given hyoscin or eactin, but I have used morphin on numerous occasions. I have also used chloral hydrate and have obtained just the result that Dr. Simpson outlined. In cases where the pains are severe, and the woman is timid and rather inclined to shirk the pains, I give either chloral hydrate or morphin. The former is preferable, unless morphin is more strongly indicated. You can go away and leave the patient and when you

come back you find that a marvelous change has taken place in your patient.

I wish to condemn the indiscriminate use of chloroform in every case of labor. I believe it is used more frequently than is good for our patients. In selected cases there is nothing with which the physician in the lying-in room can do more good than with chloroform. I have never given ether because I have always found that chloroform served the purpose. One method I have of giving chloroform was taught me by one of the old professors in the college here. When I cannot have an assistant (and in this connection we must take the pocket-book of the patient into consideration), I pour chloroform over the cone and hold it over the face, not long enough to produce surgical anesthesia, but just long enough to take the edge off the pains. When this is done you will find that the patient bears down better and you get better results than under deeper anesthesia. Of course, in cases where we must have complete surgical anesthesia, we must have some one to assist us.

I do not believe I have ever seen a fatal termination from the use of chloroform in the lying-in room. I live in the same neighborhood as Dr. Harris, where there are more babies to the square inch than in any other part of town, and I have had quite a few labor cases in the past twenty years. Chloroform should be given, but only in selected cases. I do not believe I give it on an average of more than one in every ten cases. The reason I do not give it as often now as I did fifteen years ago is because of the after effects on these patients; they get along much better without it.

I have seen very few cases of postpartum hemorrhage. I do not recall but one that followed the administration of chloroform. I believe there is more danger of postpartum hemorrhage where the chloroform is prolonged. I do not think I will ever discard chloroform for ether as long as I can get chloroform, but I wish to repeat that chloroform is given more frequently in obstetrics than is good for our patients.

J. D. Hamilton: I have enjoyed Dr. VanZandt's paper very much. If there is anything that will bring out all the sympathy in a man's soul, it is the suffering of a woman in confinement, and I believe that an anesthetic is indicated in the vast majority of labor cases. I believe too, that the danger in giving chloroform is very much exaggerated. Any agent not properly administered is dangerous. I want to emphasize the statement that I do not believe any man is justified in giving the anesthetic and delivering the woman at the same time; that is two men's work, and both men should be skilled in their work to do full justice to the patient. I recognize the fact that we cannot always have an anesthesiologist to assist us, but I do believe that wherever it is possible we ought to have one.

Dr. VanZandt is right in saying that we have

been careless in our methods of administering the anesthetic. We have not done all that we should for our patients in thus indiscriminately giving chloroform and delivering them.

As to the comparative effects of ether and chloroform in labor, I cannot say, because I have never given ether; chloroform has served me well. I have seen but one woman die as the result of the administration of chloroform in twenty-nine years' practice. I invariably use chloroform. I cannot always have some one with me to administer it, but when I give it to the surgical degree, if I can get some one I am going to have him there. I believe the man who undertakes to give his own anesthetic in all obstetrical cases will sooner or later regret it.

Edward Speidel: The position taken by Dr. VanZandt in regard to the use of ether in preference to chloroform as the anesthetic in obstetrics is indorsed by practically all the recent editions of text-books on obstetrics. However, I think that, in selecting the anesthetic to be used in a given case, experience must also be taken into consideration. Most of these cases are conducted in private homes by the practitioner himself, and the anesthetic with which he is most familiar and can best administer is perhaps the best for him. In all surgical procedures in connection with obstetrical work, the obstetrician should always secure the services of an anesthetist, or some physician to give the anesthetic. Under such circumstances I would leave to the anesthetist the question of the anesthetic to be employed, except that in a case of toxemia of pregnancy, or eclampsia, I would expect him to use ether, as recent researches by men of vast experience in this field have fully demonstrated that the principal pathology in toxemia of pregnancy or eclampsia, is fatty degeneration of the liver and, as it is contended that chloroform tends to produce this very condition, I prefer to follow the advice of men of such broad experience. Therefore, as stated, I would expect the anesthetist, under such circumstances, to use ether.

I heartily indorse what Dr. Simpson and Dr. Hamilton have said in regard to making labor as easily as possible. In the multipara the process of labor is comparatively short, and where the parts have been properly dilated the pains need not be so severe. However, in the primipara, who must go through a painful stage of from 16 to 24 hours, we should do everything possible, consistent with safety, to alleviate her suffering. I often wonder how the average man would conduct himself under similar circumstances. Therefore, in a prolonged first stage of labor, where dilatation is slow, I see no objection to the use of an anesthetic.

I have used the H. M. C. tablet, and I have used morphin straight and in connection with atropin. One objection to the use of the H. M. C. tablet is that it flushes the countenance, and

in some cases the patient becomes hysterical and frightens the family. However, it gives her more rest, allays her nervousness, and astonishes every one who use it to find how rapidly dilatation in the first stage of labor proceeds under the influence of the anesthetic.

Care should be exercised in the use of morphin. It should be given in the first stage of labor only. If used in the second stage the patient is apt to have a narcotized infant. Consequently, after full dilatation has been secured, and the bag of waters has ruptured, I think that morphin and other narcotics are contraindicated, because they will undoubtedly affect the child.

The degree of anesthesia during the second stage of labor should be in accordance with the pains, and even where the obstetrician gives the anesthetic himself he can regulate the amount administered. I am in the habit of giving the anesthetic myself and conducting the labor with one hand which is kept aseptic. I simply pour chloroform on the mask and place it over the face. Then, judging the amount of pain with the other hand, I either lift it or depress it upon the face. In this way I give the patient either the smell of chloroform or the actual effect as desired. This can be kept up for an hour without doing any harm, and the labor conducted very efficiently. If it is found that the patient is not bearing down properly, lifting the mask will accomplish the desired result.

When the head crosses the vulva and is about to come out, the patient should be surgically anesthetized, and delivery should be delayed in order that the head may be pulled out between pains. That can only be done with the patient under absolute control by producing a surgical degree of anesthesia for a few moments.

In my opinion, forceps operations, or any other procedures of that nature, cannot be safely conducted without the assistance of an anesthetist. True, we do not hear of many deaths from this cause, but if any practitioner would be unfortunate enough to have a death while attempting to carry out such a procedure alone, he would be in a bad fix, because it could be readily proven that he should have had some one to assist him. Where the obstetrician gives the anesthetic himself, not only is he unable to be aseptic in his work, but he must be hasty in his forceps delivery, and there is greater liability of lacerating the perineum and other accidents.

I have not seen any great preponderance of uterine inertia and postpartum hemorrhage in labor cases in which an anesthetic had been given. In versions and other operations of that character, I always secure complete surgical anesthesia, the anesthetic being administered by a reliable assistant, before proceeding to do the work. Furthermore, in work of that kind, I always supplement it by uterine douching and pack gauze into the uterus.

While the prediction of the essayist that

chloroform will be discarded for ether may be true, I believe it will be a long time before this comes to pass.

T. K. VanZandt, (Closing): I am certainly gratified and complimented by this generous discussion. The subject has been so thoroughly gone over that there is nothing left to be said.

The point touched upon by Dr. Harris was one of the main reasons for the presentation of this paper; that is, I wanted to teach the younger men to avoid the use of chloroform. We have learned that the after effects of this anesthetic, be it given to the degree of analgesia or complete anesthesia, are much more harmful than we formerly believed. Another reason why I wrote this paper was to present a plea for the employment of a specialist in all work requiring anesthesia. As stated in the last paragraph of my paper, I think the day is coming when ether will be the anesthetic to the exclusion of chloroform, not only in obstetrics, but in all surgical work.

So many good points have been brought out in the discussion that I will not attempt to go over them all. The arguments advanced by one side have been answered by those presented by the other side, and to take up all of them would keep you here too long. I wish to thank you again for the generous discussion you have accorded this paper.

SOME PERSONAL EXPERIENCES WITH VANCOTT'S VACCINE.*

By B. J. O'CONNOR, Louisville.

In the July, 1911, number of the *New York State Journal of Medicine* Dr. J. W. VanCott narrates his observations on a series of 75 cases of infection, which were treated by injections of a combined bacterial vaccine of the following composition:

Streptococci, 50 million; staphylococci, 500 million; colon bacilli, 200 million.

The vaccine was prepared for him, by a well-known manufacturing drug firm, according to the commonly accepted method of preparation for stock vaccines. His cases embraced puerperal sepsis, erysipelas, abscesses, phlegmons, lymphangitis, salpingitis and miscellaneous pyogenic infections, of varying degrees of severity. He concludes as a result of his study that a combined vaccine of this nature is of considerable therapeutic value. As various features connected with the use of this vaccine appear in my cases I shall refrain from quoting his paper at greater length.

There is a slight but not unimportant alteration in the above formula as this product is marketed, to-day, by this same firm. The number of streptococci to each c.c. has been

reduced to 25 million, and there has been added thereto 25 millions of the diplococci pneumoniae. At whose suggestion or when this change was made I am unable to say, but the latter represents the present formula. The change widens the utility and applicability of the vaccine.

In the *Journal of the A. M. A.*, of November 25th, 1911, Polak in a splendid article on the treatment of pelvic infections details about 150 cases of thrombophlebitis, salpingitis, appendicitis, pyelitis, pelvic cellulitis and like infectious processes, which he treated with the VanCott vaccine in conjunction with other standard modes of treatment. As a result of his observations he recommends the frequent and early use of this vaccine.

My personal experiences with the mixed vaccine, suggested by VanCott, have occurred during the past twelve months. About a year ago a patient with a typical pernicious anaemia, who had been under my care for several years, suffered an acute exacerbation of the disease. Despite several months rest in bed and excellent nursing, combined with the administration of sodium cacodylate and iron citrate hypodermatically, and the liberal use of intestinal antiseptics she continued to steadily lose strength. Her temperature during this time ranged from 96 to 99 on some days to 99 to 104 on others; the anaemia, and symptoms dependent thereon, becoming daily more marked. On the basis that the disease was probably due to some obscure intestinal infection we decided to utilize the mixed vaccine of VanCott in the hope of stimulating the resistive powers so that the temperature and infection might be controlled. Three doses of the vaccine were given at intervals of about four days. Beyond a slight local reaction no effects could be noted on the temperature or any of the symptoms. Its use was discontinued and about one week later she sank into a coma which lasted almost 72 hours before her demise. This patient's vital powers were at such a low ebb before the vaccine was utilized that it was given only as a dernier effort. To illustrate forcibly her de-vitalized condition during the period of this medication, there occurred an indolent inflammation at the site of the last injection of iron citrate which shortly before her death terminated in a focalized gangrene and a slough.

I have had four cases of appendicitis which were given the VanCott vaccine. Two of these were of the perforative type with peritonitis which were subjected to operation. In these cases the vaccine was used on account of complications. The third patient, an elderly man with a tissue paper abdominal wall, who presented in addition to the typical symptoms of a recurrent attack, a palpable enlargement at the head of the colon about

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the size of a barlow knife. The pulse rate was low and the temperature at no time exceeded 100. On account of his age, infirmity and the subacute nature of the attack we gave him three injections of the mixed vaccine at intervals of three days in conjunction with other treatment. Within 24 hours after the first injection there was such a notable improvement in all the manifestations that I felt certain that he was almost beyond any danger. Two days after the third injection the tenderness and tumor mas had almost entirely disappeared. I feel reasonably certain that the vaccine shortened the course of the disease. He still has his appendix, however, and although he has worked steadily for the past four months he has experienced several attacks of indigestion (?) following dietetic indiscretions.

The last patient with appendicitis on whom I used the VanCott has just returned home from the infirmary minus his appendix. His attack, was an initial one which started out very mildly. I saw him a few hours after the onset, cleansed out the lower bowel and restricted everything by mouth. Six hours later I gave 1 c.c. of VanCott's mixture as his temperature had increased from normal to 100.2. The abdominal pain was more decided shortly after the injection and he was given a 1-8th of morphine hypodermatically. The next morning the pain made him so restless that a 1-4th grain of morphine was administered. His temperature was still 100 and pulse 88. In the afternoon the pain was again severe and his temperature had increased to 102 and the pulse to 108. An operation was advised and after consultation agreed upon. The appendix, which was removed the same evening showed a gangrene of the mucosa and muscularis with a beginning gangrene of the peritoneal layer. Owing to an apparent extension of the gangrene extending to the head of the colon the stump could not be perfectly closed, the omentum was brought down to wall off the area and free tubal and gauze drainage was allowed. A few hours after operation his temperature was normal and remained so throughout his convalescence which was unusually smooth. The amount of drainage was apparently less than usual for cases of this nature. There may be some question as to whether the vaccine proved to be of any benefit to this patient. That it had anything to do with the gangrene of the appendix seems unreasonable.

In my first patient with perforative appendicitis on whom the vaccine was used the removal of the appendix was delayed on account of a multiplicity of medical attendants until almost 18 hours after the perforation. The peritoneal cavity contained almost a pint of pus, the intestines in the neighborhood of

the appendix were covered with sero-purulent exudate and all the abdominal viscera showed distinct evidences of a general peritonitis. After the operation the patient felt considerable relief but his condition was anything but favorable. On the fourth day a painful swelling developed in the right parotid, resembling an ordinary attack of mumps. Several days later fluctuation could be detected and the skin became reddened. The gland was incised and drained. At this time another metastatic abscess commenced to form in the left buttock. The drainage from the abdominal wound which was markedly inflamed, was quite profuse and of a distinct purulent character. The first dose of the VanCott not only seemed to reduce the temperature but also exerted a beneficial effect at the foci of infection. The abscess in the buttock was opened. Three doses of the vaccine were given subsequently at intervals of three days. The drainage materially lessened after each injection, the temperature completely disappeared and the incisions soon assumed a healthy and healing appearance. The abdominal wound which had gaped widely apart owing to the sutures pulling through the inflamed tissue was resutured under cocaine anesthesia. The patient left the infirmary five weeks from the date of entry and after a few weeks' convalescence in the country returned to his work. Proctoclysis, the Fowler position and special nursing probably deserve as much credit for the patient's recovery as the vaccines.

In the second case of perforative appendicitis the patient came under my attention within an hour of his perforation. His temperature was still normal, his pulse 72 but his abdomen showed universal rigidity and his expression typified the most exquisite pain. The appendiceal pain was first noted some six hours previously but only became unbearable a short time before I was called. About a year previous to this attack I had seen him through a mild attack. On this occasion, however, his mother had completely filled him with castor oil and salts and the appendix had apparently yielded to the pressure. After making the diagnosis I told him that I could not give him anything to ease his pain until he gave his consent for an immediate operation. The pain was such that he readily consented and he was on the table an hour afterwards. The abdomen contained several pints of thin watery feces, exuding in a stream from a small perforation at the base of the appendix. The appendix was removed, the stump carefully sutured, liberal drainage was provided through the wound and by means of a flank incision. For several days he did splendidly, then an attack of pleurisy was ushered in by chill, high fever, a rapid

pulse and pain. Within 12 hours an extensive exudate, apparently of a fibrinous nature, caused an almost complete dullness of the left anterior chest wall. His chest was strapped with adhesive and a dose of VanCott's administered. There was a distinct improvement within 24 hours, his temperature fell to 98 and at no time subsequently passed 100. A second injection on the fourth day seemed to bring about a considerable diminution in the area of dullness and a few days after the third injection the dullness had completely disappeared. This patient left the hospital within three weeks apparently in better shape than prior to his illness.

Two cases of fibrinous pleurisy in young people with characteristics almost identical to the preceding have been given the same treatment with equally striking results. One patient treated at home cleared up within ten days. The second patient whose temperature was higher became delirious and unmanageable at home. He was removed to the infirmary. The first dose of the VanCott seemed to increase his temperature and delirium for a few hours, he then had a heavy sweat and commenced to improve, after the second injection his temperature fell to normal and the exudate almost completely disappeared. He received two more injections before he left the infirmary.

Another patient with a sero-fibrinous pleurisy from whom I twice removed about a pint and a half of fluid, which was loaded with pneumococci was also given several injections of the VanCott. He was running a temperature up to 102.5 prior to the injections and aspirations but since then the temperature has remained normal, his appetite and general condition has improved. Unfortunately he was not willing for me to continue the injections. The use of the two doses in his case did not seem to exert any effect towards the absorption of the fluid. Whether the cessation of his fever was due entirely to the aspiration I am unable to say.

Several cases of urinary infections have also been treated with apparently beneficial results. The first was a man of 80 years who had been subjected to a perineal prostatectomy on account of complete retention. Owing to the efforts to give him instrumental relief for more than a week preceding the operation we fully anticipated trouble after the operation. It came rather promptly in the form of chills and high fever, about the third day after the operation. The vaccine was started at the onset of the septic condition. A slight local and general reaction was noted followed in some 12 hours by a distinct amelioration of the threatening symptoms. After two more doses at three day intervals he seemed to be well beyond danger and made a

perfect recovery. The Murphy drip, frequent irrigation of the bladder, free drainage and good nursing no doubt contributed largely to his recovery. He left the infirmary three weeks after the operation with a comparatively small urinary fistula. Four more injections of the VanCott after his return home failed to close the fistula and an autogenous vaccine was prepared. After he had received three doses of the autogenous vaccine the fistula closed and the pyuria and bacteriuria disappeared.

The second case of urinary infection treated with injections of VanCott's vaccine, was that of a clergyman, 50 years of age, who after several attacks of ureteral colic, voided the fragments of an apparently recently formed calculus. These fragments were imbedded in small blood clots of which the patient voided quite a number. After the first fragments passed a considerable quantity of urine which had evidently been retained in the pelvis of the kidney for several days was voided. A colon bacillus infection with a moderate pyuria and mild general symptoms followed. Four injections of the VanCott were administered with a distinct improvement in the condition of the urine. The pyuria entirely disappeared and only a slight mucous flocculency with a few bacteria could be found microscopically. Ten days later the urine was perfectly normal. Urotropin and piperazine were also administered in conjunction with the vaccine.

I have also treated three cases of postpartum infection with the VanCott combination. The first patient had a large pelvic abscess, following an abortion, when she came under my attention. The abscess was opened and drained through the Cul-de-sac. A distinct amelioration of the symptoms was naturally the result. This woman was so emaciated and devitalized as a result of her long continued disease, that I deemed it advisable to give her several injections of the VanCott to fortify her resistance and hasten her recovery. After each injection, four in all being given, a slight increase in the amount of discharge was noticeable for a few hours and then a considerable decrease in the amount would follow. At the end of two weeks the fistula had closed and at the end of a month the patient felt better than before her illness. This patient would probably have fully recovered without the vaccine but scarcely in such a short time. The suppurative process was of such long standing when I first saw her that I felt certain that amyloid degeneration of the tissues was sufficiently advanced to make the outcome disastrous.

The other cases of postpartum infection were seen in consultation. The first case was one in which a severe infection followed an

intrauterine douche. The patient was delirious, with a temperature of 105, and showed extreme tenderness of the uterus and pelvic organs. The cervix, which had been badly lacerated, was covered with a sero-fibrinous exudate, the lochial discharge, which was scant, was more purulent than sanguineous. The uterus was patulent and contained no clots. The cervix and the body of the uterus was carefully swabbed with tincture of iodine. One half c.c. of the VanCott was given immediately and the attending physician advised to give another half the next morning if no improvement was observable. Much to the surprise of the attending physician he found his patient practically normal the next day. The temperature on that afternoon rose to 100 and was still above normal on the following day but after a second dose of the vaccine the fever entirely disappeared, and the patient made a prompt recovery. In the other case of postpartum infection a subacute infection followed in the wake of a difficult labor. A persistent occipital had required the use of forceps. There was a slight perineal laceration, which was immediately repaired. Two days later a chilliness ushered in a temperature of 102.5. The vagina, cervix, uterus and perineum were carefully examined and showed no distinct evidence of any infection. Pressure on the body of the uterus elicited only a moderate amount of tenderness. A dose of the VanCott was administered, it was followed for a few hours by a slight accentuation of the general symptoms, and then by a rapid improvement. After two more doses at intervals of 72 hours every symptom of the infection had disappeared.

My object in reporting these cases is to call the attention of the profession to what I believe to be a valuable adjunct to our therapeutic resources in combatting, during the acute stages, various septic and pyogenic infections. The combined vaccines do not meet with the universal approval of expert vaccine technicians, being held by many in the same class as a shot-gun prescription. But when we consider the many difficulties to the average practitioner of an accurate bacteriologic diagnosis in the many pyogenic infections that he encounters and the fact that the VanCott vaccine contains in suitable dosage, ready for immediate administration, all of the more common pyogenic bacteria, plus the observations of VanCott, Pollak and many others that good results follow the use of such a combination, I feel that the clinical observations, should carry more weight than the laboratory theories.

As with all other vaccines, this combination should be considered solely as an adjunct to the universally accepted modes of

management for infectious conditions due to the pyogenic bacteria, no matter whether those methods be surgical, medicinal or mechanical.

The acute infections, rather than the chronic, subacute or indolent types of infection constitute in my opinion the special field in which the combined vaccines are indicated. Although it is slightly more difficult in such character of cases to draw accurate deductions as to the exact amount of good which follows the use of any therapeutic agent, I believe that almost everyone, who has employed the VanCott vaccine any way extensively, will agree with me, in the following conclusions: First that the vaccine seldom, if ever, has caused any apparent harm to the patient. Secondly, that in many cases in which we are somewhat fearful of the ultimate outcome, that one or two injections of the vaccine will bring about conditions which promptly dispell any apprehensions of great danger. Thirdly that the gravity of many of these infections is decidedly less when the vaccine is used early. (My personal opinion, based upon a good many cases in which I have employed vaccines, leads me to believe that the early administration of vaccines is almost as important as the early use of antitoxic or antilytic sera.) Lastly, that in cases in which we employ vaccines scientifically we do not meet with complications, extensions or long drawn out illnesses and questionable convalescences, that were not unrarely seen with older methods of treatment.

DISCUSSION.

Edward B. Richey: I appreciate the report made by Dr. O'Connor to-night, because of the fact that I have frequently used VanCott's vaccine, and I wish to emphasize his statement that it should be used early. I believe that, when a positive diagnosis has been made, the earlier it is given the better results we will get. I also agree with him that it is often a valuable adjunct to other forms of treatment. I have used it in more than 200 cases with satisfactory results in 75 per cent of them.

J. Garland Sherrill: Properly administered in selected cases, VanCott's vaccine is probably of some benefit. I feel, however, that when it comes to treating acute infectious conditions, such as appendicitis for example, with vaccine, it is like shooting at a bear with a pop-gun. The patient will fare a great deal better if we operate promptly. During the past ten years the work of the majority of surgeons in handling appendicitis has improved to such a degree that we now see comparatively few of the late complications mentioned by Dr. O'Connor, and in which he used VanCott's vaccine. It has been my impression that the results from the use of this vaccine have been much better in chronic pyo-

genic processes than in acute conditions. In acute processes the infection is so rapid that before the vaccine has had time to produce an effect, the tissue destruction has progressed to such an extent that it can do no good.

Arch Dixon, (Henderson): I agree with one of the speakers that we should not delay operation in appendicitis, but I also agree with Dr. O'Connor that where we have a perforated appendix, with general peritonitis, if the appendix be removed in time, the vaccines will do a wonderful lot of good. I recall one case especially in a patient that I believe would have died in less than twelve hours without the use of vaccine.

I have been called in consultation in several cases of puerperal infection in which I have advised the use of vaccine with marked results.

In country towns where a bacteriologist is not available, and a vaccine prepared from the bacilli that are causing the infection cannot be had, it is my plan to use a polyvalent stock vaccine. Call it a "shot-gun" vaccine if you will, but it does the work; if one type of bacteria does not hit the mark, another will. In a great many of these cases we find, not only the streptococcus but the staphylococcus and the bacillus coli communis, and I believe that with a more general use of vaccines we will get better results in these cases than we are getting now. A great many doctors in my section of the country are afraid to use the vaccines. They are afraid of the possibility of an anaphylaxis, such as we occasionally see following the use of the diphtheria antitoxin. However, I have been using them for a year or more with very good results.

In acute cases we cannot wait the length of time necessary to secure an autogenous vaccine, and we are obliged to use the stock vaccines, and I believe that the latter are just as good except in some particular cases. I know that I have had good results from them.

I agree with Dr. Sherrill that the thing to do in appendicitis is to operate as soon as we make the diagnosis.

Arthur T. McCormack, (Bowling Green): As a practical suggestion, I would like to mention the fact that the State Board of Health, through its bacteriological laboratory, is now able to furnish Mulford's vaccines and other bacteriological products at a discount of 40 per cent. from list prices for the benefit of indigent persons who are unable to pay the full price.

My experience with the VanCott formula has been limited to the last six or eight months. I was particularly interested in a case of angioneurosis, diagnosed by Dr. Billings, of Chicago, as of malarial origin. Active treatment for chronic malaria apparently relieved her for a time, but there was a recurrence of the symptoms with some indications of an obscure intestinal infection, and at the suggestion of Dr. Simpson I used the VanCott formula with very good results. She was relieved by the first injection, and

after the second the swelling and pain entirely disappeared.

Probably the most delightful result I have obtained from the use of any bacterial vaccine has been from the colon vaccine in cases of chronic infection of the gallbladder, apparently without stones, as evidenced by the absence of the characteristic attacks of gallstone colic. I first used it in a case following operation, in which there was a discharge of a large amount of the black, tarry, peculiar-smelling material that we see in cases where no stones are present. Following this I used it in a series of eight cases, in which operation was not done, with extremely gratifying results.

Chas. W. Hibbitt: Did those cases have fever?

A. T. McCormack: No, sir. They were chronic cases. I think in some of them the temperature went as high as 99 degrees F., but the rapidity of the pulse was entirely out of proportion to the temperature. They had the color, and the tenderness over the gallbladder, without having had any attacks of gallstone colic.

Bernard J. O'Connor, (Closing): I wish to thank the gentlemen for their discussion.

I would say to the surgeons that no one is more ready to recognize surgical indications and to meet them by advising operation than I am. However, in every case of appendicitis, operation is not wise. Many cases of catarrhal appendicitis recover without operation. Again, not every patient is willing to undergo operation. Where we can obtain the patient's consent, and have operation done in the first few hours, I recommend that procedure, because I think the chances are more favorable at that time.

Another point that has been brought out is in regard to the use of vaccines in chronic rather than acute infections. Any one who is acquainted with the recent literature on vaccine therapy is fully informed of the fact that vaccines are now being used in acute conditions about as frequently as in chronic conditions. As stated in the report, it is a hard matter to determine the benefit derived from the use of vaccines in infections that run a comparatively short course, and if neglected they become chronic and refractory to all forms of treatment.

The fact that vaccine therapy is being derided and made light of by the public press is to my mind deplorable. Any one who has faith in diphtheria anti-toxin must necessarily believe in vaccine therapy, because the principles are the same. I do believe, however, that vaccines, under certain circumstances, are potent for a great deal of harm. One of our local physicians almost induced an attack of pneumonia in himself by using staphylococic vaccine once a day. After a week's rest and then taking a dose once a week, his bronchitis promptly cleared up.

I have used vaccine in one case of cystitis. The urine from the bladder was cultured and an autogenous vaccine made. The injection of the

vaccine probably lit up an old gallbladder trouble and the patient died forty-eight hours after the first injection.

It is necessary to be more careful in the use of autogenous vaccines than with the stock vaccines. We should commence with a smaller dose of the former. The dose is not always carefully estimated, and the possibility for harm is greater with the autogenous than with the stock vaccines.

NEPHRECTOMY.

(REPORT OF CASE AND SPECIMEN.)

By J. HUNTER PEAK, Louisville.

During the month of May, 1912, I was called, in consultation with Dr. Melton, to see a woman, 45 years of age, who has given birth to eleven children, seven of whom are living. She dated her suffering from the birth of her second child, 25 years ago. Upon examination I found a tumor occupying almost the entire right side of the abdomen, from the ribs down to near the pelvis. Upon palpitation it was very easy to determine that it was a kidney condition, and the symptoms of which she complained also pointed to such a condition. Her trouble became very much worse in January last, which she thinks was due to a fall. From that time until May she suffered at intervals very greatly. Sometimes the tumor mass would be much larger than at other times, and it would become smaller after she had voided considerable urine.

Analysis of a catheterized specimen of urine from the left ureter, at the time I first saw her, was normal, but the urine from the bladder showed a great many pus cells and pus.

This patient was removed to the Infirmary on May 21st, and operated upon. This specimen is a part of the mass removed. It might be described as the shell of the cortex of the kidney with the sac. It was sacculated, even the ureter being sacculated to a large extent. The pelvis of the kidney was large enough to hold three painful of fluid, which upon examination was found to contain staphylococci and colon bacilli. There was no evidence of a tubercular condition at the time of operation; no stone was found, and there was no apparent cause for the obstruction of the ureter.

The operation was rendered somewhat difficult by adhesions at the upper part of the kidney, and very troublesome hemorrhage occurred during the enucleation. The mass was adherent to nearly all the structures in the immediate neighborhood, but the enucleation was easy except at the upper pole, where it was very difficult with considerable venous

hemorrhage which was controlled by hot packs. I was able to remove the mass transperitoneally making an incision at the outer border of the rectus, beginning at the border of the ribs and extending eight or ten inches down. However, it was found that the growth was too large to be removed through this opening. With a trocar canula I evacuated the fluid and closed the opening with a suture, after which it was comparatively easy to accomplish its removal. A pair of Pruit forceps was placed on each side, with the points coming together, and the mass removed on the distal side. Then I ligated the veins and arteries and cut off as much of the ureter as I could, leaving the stump open. I did not search for a stone because the patient was in very bad shape on account of hemorrhage and shock. At the time of operation and for two weeks prior, her temperature had ranged from 102 to 104. When she went on the table it was 103 1-2; pulse 130.

After putting her to bed she was given saline per rectum, and other stimulants, in order to keep the other kidney functioning. She rallied nicely and in two or three days was seemingly in fine shape. I neglected to say that the anterior wound was sutured without drainage, and the stab wound made over the crest of the ileum, far back, for the purpose of drainage. This continued to drain for about two weeks after she went home. She was in the hospital about two weeks, going home on the 15th day following the operation. At the end of about the fourth week, the wound closed and she has been perfectly well ever since.

I have brought this patient here to-night and I would be glad to have you examine her if you desire to do so.

DISCUSSION.

W. C. Dugan: I differ with Dr. Peak in regard to dealing with a condition of this kind. I do not believe that, with a patient running a temperature of 102 to 104, profoundly septic, should be subjected to a primary nephrectomy. I would like to ask Dr. Peak to say why he did a nephrectomy as a primary rather than a secondary operation in this case. I am rather surprised that the doctor succeeded in getting his patient off the table. He is certainly to be congratulated.

I think the safest way to deal with a case such as this is to first do a nephrotomy, going in from behind, establishing drainage, and eliminating the factor of sepsis; then at a later date, do a nephrectomy.

J. Hunter Peak, (Closing): In answer to Dr. Dugan's question, I will say that this woman had suffered so long from this condition that I believed she had developed a certain degree of immunity, notwithstanding the high temperature.

She would suffer for twenty-four to thirty-six hours, and under the administration of morphia, and after she had passed a considerable quantity of this material, she would get relief and get up and go about for a week or a month, and then have the same thing over again. At the time I saw her, she had been suffering a great deal of pain almost continuously for two weeks, and during that time the urine had been relatively clear. Believing that her condition was not as serious as her temperature seemed to indicate, I considered it advisable to remove the kidney at once. Any one who has ever removed a kidney as a secondary operation following drainage knows what it means in the way of adhesions, making its removal very difficult, while primary removal of the kidney, especially transperitonically, is comparatively easy. I am satisfied that this kidney could not have been removed satisfactorily in any other way; first, because the adhesions would have made it impossible to remove in any other way; and, second, I believe we are able to control the hemorrhage much better in this way.

So far as the results are concerned, I think they speak for themselves. The patient is here, in perfect health, and she has been ever since she went home. If the obstruction in this case was produced by a stone, it is still there because it has never passed.

MEDICAL PROGRESS

DEPARTMENT OF MENTAL AND NERVOUS DISEASES.

By MILTON BOARD, Louisville.

IS ALCOHOL A HEART STIMULANT?

Under this title Dr. John M. Shaller, of Denver, Col., presents some very interesting thoughts in the Spring number, 1912 of the *Journal of Inebriety*. He classes alcohol with nitro-glycerine, opium and atropine, claiming that, they act through the vaso-dilator nerves upon the involuntary muscle fibers of the small arteries.

He answers the question in the affirmative by stating that if by stimulation we mean relaxing the arterioles thereby flushing the capillaries of the skin, brain and skeletal muscles. The question of what is stimulation becomes a very important one, worthy of our deepest thought and most thorough investigation. Dr. Shaller compares the action of the foregoing drugs with digitalis, which he asserts is the truest heart tonic and stimulant, in that it contracts the arterioles by toning their involuntary muscle fibers and acts similarly upon the cardiac.

It causes muscular activity, produces strength of action and actually increases the size of the muscle fiber through digitalis ex-

ercise; the heart beats slower with more vigor and the blood pressure is increased. This is true cardiac stimulation, which unfortunately cannot be quickly produced, hence digitalis is of no value in an emergency. Cardiac stimulation is the increase of the force of systolic action as well as the blood pressure; increase in blood pressure can be produced only by contracting the arterioles not by dilating them, by this standard then, alcohol is not a heart stimulant. Taking up the effects of alcohol on the circulation the writer states that the arterioles are relaxed through paralysis of the vaso-constrictor nerve. In fact contracted muscle fibers are relieved of their enforced tension by alcohol. This permits the blood to flow into the surface capillaries and unload the crowded vein, in which the blood has been accumulating during the emergency.

In internal congestions this filling up of the internal veins is the cause of paleness. The veins are the only reservoirs which have the capacity to hold the blood forced out of the smaller arteries by muscular contraction. To relieve the over-filled veins and return the blood to the cutaneous and muscle capillaries is a very important matter, not only to relieve pain, but sometimes to save life. This action of alcohol, of nitroglycerine, opium or atropine is not stimulation, it is relaxation, or perhaps better dilatation. The warm blood refills the capillaries of the skin, brain and skeletal muscles; there is a pleasant sensation of increased heat and relief of pain. The writer describes the well known physiological effects of alcohol and concludes as follows:

"It is impossible to give even the smallest physiological dose of alcohol without obtaining its narcotic effects."

"Alcohol is a narcotic which cannot produce its so-called stimulating effect independently of its narcotic one. They are identical."

"The effects produced by a social glass are not stimulating, but narcotic. If we will but take the pains to compare the effects of alcohol with those of opium, we will find they are similar."

"The rapidity with which narcotic effects are produced is probably a matter of more or less personal experience with each of us. As soon as the flushing of the face is felt accompanied with fullness of the head and the sense of general wellbeing just so rapidly are the narcotic effects of alcohol produced."

"The so-called cerebral excitement shown by increased liveliness of manner or of speech follows the above primary effects. The narcotic effects are the first to be produced probably the only one; without them relief in all acute conditions accompanied by

coldness and paleness of the surface could not follow their administration."

"Alcohol is a powerful inhibitor of the higher nerve centers."

"It would be impossible for many men to act foolishly, immodestly or criminally unless the higher centers were paralyzed, which permits lower traits to come to the surface. Stimulants cannot produce such effects as narcotics do. The so-called period of stimulation is one of exhilaration, of delirium caused by narcotism."

"This is plain when marked conditions are present."

"We should be careful not to confuse mental excitement with narcotism or with the delirium of disease or with cardiac stimulation."

THE WASSERMANN REACTION AND ALCOHOL.

In the August 5th, number of *The Journal of the American Medical Association*, Doctors Craig and Nichols raise a very important point. The Wassermann test though it has been found to occur in a few other diseases, has come to be pretty generally accepted as a practical test for syphilis. They raise the question, however, of its value in a user of alcohol even when taken in moderation; and as the majority of syphilitics drink more or less, the practical use of the test is in danger of being seriously embarrassed. They suggest the complete withdrawal of alcohol for two or three days before the test is made. This can usually only be accomplished with certainty in a hospital where restrictions are thrown around patients.

STRYCHNINE NOT A SAFE MEDICINE.

In the spring number, 1912, of the *Journal of Inebriety* this subject is treated briefly, the Editor calling attention to the fact that persons given continuous doses of strychnine, the basis of so-called gold cures for alcoholism have suffered from paralysis particularly of the motor nerves. Withdrawal of the strychnine caused the paralysis to disappear. Study of the effect of the drug on inebriates shows that a number are hyper-sensitive to its effects, one or two doses of one-sixtieth of a grain will sometimes be followed by a spasmodic action and muscular tension that is very dangerous. When small doses are given for a long period an unexplained sort of dementia occurs. The patient becomes indifferent to the surroundings, to exercise both physical and mental, and is precipitated into what resembles extreme old age. The muscles lose their elasticity and become hard. The patient walks with hesitation and all the acts of the patient are performed as if unconscious of their import. A species of progressive muscular atrophy seems to follow,

which improves when the drug is withdrawn. Experience shows that it is a safe drug in only a limited number of cases and then in very small doses given for a few weeks discontinued and taken up again after a long interval. It is generally contraindicated in all forms of hemiplegia. In the toxemias and congestions from alcohol and inebriety, it should be used with great caution and careful examination of its effects; otherwise much danger will follow.

WATER AS A CURATIVE AGENT IN THE TREATMENT OF INEBRIETY.

In the same issue of the *Journal of Inebriety* it is stated that a Paris doctor has announced in great detail a method of cure of inebriety which is at least suggestive and far more rational than the various drug combinations that have been urged.

The inebriate is given colored water in four ounce doses every two hours. The water is first mixed with wine in very small quantities. Then the wine is withdrawn and phosphoric acid substituted so that the patient practically gets two or three drops with each dose of water. The patient is told that he can drink his usual quantity of spirits, but he is required to take his colored water as medicine, the nature of which is unknown to him. After two or three days he loses his taste for spirits, becomes greatly disgusted with them, says they are harmful and will not use them any more. The results after two weeks of treatment is full restoration and a degree of vigor which is very evident. The water is reduced in quantity until one ounce is taken every two hours and this is kept up for a number of weeks, the patient realizing that he is unable to drink with pleasure and feeling no desire or taste for it. This is a new application of an old remedy which is deserving of much attention. Suggestion forming a large part of the various so-called cures for alcoholism the use of as harmless a remedy as water is preferable to strychnine and emetics.

INSANITY IN LITERARY GENIUS.

Dr. Eva Charlotte Reid, Assistant Physician of the Government Hospital for the Insane, Washington, D. C., has written a very interesting thesis which appears in the April number of the *American Journal of Insanity*. Numerous illustrations are given of historic characters who suffered from insanity of the manic-depressive type.

"The theory that genius is allied to insanity has found many advocates, it has on the other hand many opponents. There is a strong sentimental reason for objecting to the association of that which is most noble and sublime in the mind of man with that state

which is considered the saddest, most pathetic and even disgraceful. Joly states that: "It is not necessary to refuse the theory of genius and insanity, for strength is not weakness, health is not disease; and for the rest the cases quoted in favor of these hypotheses are only particular cases."

The study of American and English authors from a physis standpoint is most interesting. To quote Dr. Reid, Byron's maternal grandmother suffered from melancholia and took her own life. Another relative took poison. His mother was eccentric. His father who was known as "Mad Jack Byron" committed suicide. Charles Lamb's father and sister were insane, his mother suffered from paresis. Dorothy Wordsworth, the sister of the poet, died insane. His daughter, Catherine, suffered from epilepsy and another daughter is said to have been insane at times. DeQuincey's father died of tuberculosis; a sister of hydrocephalus and a son of some obscure brain trouble. The father of Thomas Chatterton was a chronic alcoholic. Pope's mother suffered from senile dementia. Johnson in writing of Pope says: "He inherited headache from his mother and a crooked figure from his father. He was so small of stature that his seat at the table had to be raised to bring him on a level with the others. Dean Swift's uncle died insane. Samuel Johnson's father is described by Murphy as being afflicted with a degree of melancholy little short of madness, violent passions, strong-headed, positive. James Thompson's father suffered from paralysis, his mother from melancholia. Cowper inherited insanity from both sides of his ancestors. Shelly's grandfather suffered from melancholia and his father had tendencies in the same direction. Hartley Coleridge the eldest son of Samuel Taylor Coleridge, bore the hereditary burden of a father addicted to opium and at times insane. He was an eight months' baby and was of abnormally small stature, less than five feet. Sonthey had a maternal uncle who was an idiot. His mother suffered from paralysis in infancy. Sir Walter Scott had a maternal uncle who was insane; his father suffered from organic dementia, his mother from aphasia and post apoplectic dementia; one daughter died of brain fever, another of tuberculosis. Edgar Allen Poe had alcoholic parents and an insane uncle, an imbecile sister and an alcoholic brother."

The author's description of DeQuincey's mental peculiarities is very complete. Quoting from Dr. Eatwell, in his medical review of the life of DeQuincey, it is indicated that he suffered from some nervous trouble during his second or third year. At the age of six he suffered from cataleptic epilepsy. While standing by the casket of his deceased sister

he had a vision in which hallucination of sight and hearing were present. Immediately following this he passed into a depression during which he secluded himself from his family. At twelve he is supposed to have suffered an injury to the head which was followed by mental symptoms. Spencer states that he believes the injury was purely imaginary and gave his opinion that DeQuincey's trouble arose from irritation in his too active and susceptible brain. At sixteen he suffered from a marked depression and wrote a letter to his mother in which he expressed a wish to die. At seventeen the "tide came in" and he suffered from a mild excitement, ran away from school, wandered aimlessly over the hills of Wales, with no object in view except to alleviate his restlessness. He finally wandered to London where the depressed state again ensued. He spent his days idly sitting in the parks and his nights sleeping in hovels. Once he fainted in the street from exhaustion. He entered Oxford at the age of eighteen, soon after admission he again became depressed. It was at this time that he began the use of opium, first taking it for neuralgia. He was a natural morphinist and the drug appears to have had a magical effect upon his disordered mind. "Here he exclaims is a panacea for all human woes. Here is the secret of happiness, about which philosophers have disputed at once discovered." From that time until his death he used the drug at intervals. He remained at Oxford five years, but never received a degree. His examination was progressing nicely, so much so that one member of the faculty said, "You have sent us the cleverest man I ever met." That night DeQuincey disappeared from Oxford and never returned. The stress and strain of the approaching oral examination probably precipitated a depression. At twenty-seven he had an attack of what he describes as nervous horror, which lasted for five months and which disappeared in a night. At twenty-eight he had a depression lasting three months following the death of little Kate Wordsworth. This attack also ended suddenly. The depressions and excitements from which DeQuincey suffered interfered with any continuous effort of any sort. He wrote all the time when he was able, but at thirty he had not published a single line. His literary productions were never finished. Later when he became a regular contributor to various publications he would begin numerous articles which he would never complete.

The remarkable thing about DeQuincey was his insight into his own condition. He writes: "I suffer from the most afflicting derangement of the nervous system which at times makes it difficult for me to write at all."

And again: "A nervous malady of a very

peculiar character which has attacked me intermittently for the last eleven years. My power to make sustained effort dropped in a way I could not control inasmuch that with the parts to be cancelled and with whole days of torpor and pure defect of power to produce anything at all, very often it turned out that all my labors were barely sufficient, (sometimes not sufficient), to meet the current expenses of my residence in London. Sleep and waking became alike in the prevailing sense for sunless gloom and boundless abysses out of which there seemed no hope of rising while space and time alike became boundless, infinite. At length I grew afraid to sleep and I shrank from it as from savage torture. Often I fought with my own drowsiness and kept it aloof by sitting up the whole night and the following day. I sometimes seemed to have lived seventy or a hundred years in one night. In the earlier stage of my malady, the splendor of my dreams was chiefly architectural, and I beheld such pomp of cities and palaces as were never yet beheld by the waking eye, unless in the clouds. But now came a tremendous change. Hitherto the human face mixed often in my dreams, but not despotically nor with any special power of tormenting. Now the appearing of the human face began to unfold itself. The sea seemed to be pale with innumerable faces, wrathful, despairing surged up by thousands, by myriads by generations. No purpose could be answered by my vainly trying to make intelligible for my daughters which I cannot make for myself the indescribable horror that night and day broods over my nervous system."

His "Confessions Of An Opium Eater," were written during a period of excitement without correction or revision. At the time he attempted to revise the work he was seized with depression. He wrote to his publisher as follows:

"A nervous malady which has attacked me intermittently for the last eleven years came on May 1st, almost concurrently with the commencement of this revision and so obstinately has the malady pursued its noiseless and what I may call its subterranean siege that although dedicating myself to this solitary labor, I have spent within six days six calendar months upon the rest of one volume."

Of the excitement of DeQuincey we have little account. Page describes his flight of ideas very aptly:

"His talk is like a stream which runs with rapid change from rocks to roses. It slips from politics to puns. It glides from Mahomet to Moses, beginning with the laws which keep the planets in their courses and ending with some receipt for dressing eels or shoeing horses. His restlessness was great.

He walked a thousand miles in ninety days. He had all the characteristics of a morphinist in his personal appearance which became more and more disordered and in his child-like tendency to keep rubbish hidden in every nook and corner. His library was scattered, his papers in a hopeless state."

DeQuincey's abnormal mental condition has been entirely attributed to the use of opium. As a matter of fact the addiction to opium was the effect rather than the cause of his psychosis. Inasmuch as the latter preceded the former many years. In a letter to a friend DeQuincey says:

"You will naturally ask if there is any key to the original cause. Sincerely I do not believe there is. One inevitable suggestion at first arose to everybody consulted, namely, that it might be some horrid recoil from the long habit of using opium to excess. But this seems improbable for more reasons than one: first, because previously to any considerable use of opium namely in 1812, I suffered from an unaccountable attack of nervous horror, which lasted for five months and went off in one night."

"During his depressions he was able to perform his duties only by the aid of laudanum, a bottle of which set constantly on his desk. He describes its effects as follows:"

"It purifies the moral affection, elevates the imagination and gives a larger scope to it. A power to recreate experiences and fancies of infancy already becoming dim. Opium introduces into the faculties the most exquisite order, regulation and harmony."

How much of DeQuincey's psychosis was colored by opium is impossible to say, but it was possibly responsible to some extent for the hallucinations and delusions so graphically described in his "Confessions of An Opium Eater."

Anemia from *Cercomonas* in the Intestines.—

In Franchini's case the patient had recurring attacks of severe anemia, weakness, abdominal pain and diarrhea during twelve years, with intervals of years of comparative health. Finally a severe attack was traced to the presence of the *Cercomonas* in the intestines; the reds numbered only 500,000 and the hemoglobin was only 17 per cent. when treatment was instituted. The patient rapidly recuperated as the parasites were expelled. In another case a woman had had symptoms of gastric ulcer for years; it finally perforated and in the pus aspirated from the circumscribed peritonitis the *Cercomonas* was found in great numbers. These protozoa had not been responsible probably for the lesion in this case, but their presence had evidently aided in keeping up the chronic irritation.

SELF-MEDICATION.*

By J. H. HOHNSTEDT, Fort Thomas.

Self-medication is an evil practice by a class of people ignorant of the fundamental laws of nature and not capable of comprehending the chemistry of drugs and its relation to the physiological activity of the human body. They consider it time saved and money earned if by some chance they are fortunate, through self-medication to relieve themselves of some uncomfortable symptom. The time-tried home remedies are so cheap that they are usually tried first and often with some gratifying psychological effect. From an economical stand-point many consider the fee of the physician, coupled with the cost of drugs, a burden. Therefore they seek to relieve themselves of their ailments by taking either some of their own prepared decoction, their neighbor's disgusting beverage or one of those widely advertised cure-all patent medicines. They fail to realize that the physician's fee and the cost of a properly prescribed drug would be cheaper than all the money spent for unscientific treatment.

I do not wish to condemn the practice of self-medication when such is done in an emergency pending the arrival of a physician, who probably must travel many miles. Such practice should no more be condemned than to condemn the practice of stopping a hemorrhage by a layman pending the arrival of a physician.

It is for the habitual self-medicators, who are lured by well-worded advertisements, who accept the promises of the nostrum venders, and who in their ignorance may propagate a race inferior in character, that this paper is written. This evil is encouraged by venders of nostrum upon a gullible public. It must be stopped if we wish the coming generations to come into the full vigor of their manhood, thus lessening the admissions to our insane and blind asylums and lessening the criminality defectives.

The history of self-medication dates back to remote ages when our ancestors prepared various decoctions, plasters, ointments, poultices, etc. These formulas were handed down from one generation to another, and prescribed to the sick members of families by their more ignorant folk.

The younger members being taught self-medication would in turn teach their children. They were imbued with a determination to cure all their ills. Those were the days of individual self-medication, the days of darkness, the days when the physician was practically a dispenser of the various nauseating empirical remedies. It was a question as to

whether the home-made remedies or the sickening, disgusting preparation of the physician was best for the patient.

What of to-day, the day of enlightenment, the day when the practice of medicine is based upon a sound rational basis? Is the practice of self-medication still being adhered to? We find among the ignorant that they are using some of the ancient decoctions and preparing smeary, slimy and sticky poultices. And as we go up the scale of human intelligence those nasty preparations have given way to finer and often dangerous preparations. Oleum Ricini and the various salts have taken the place of the ancient cathartics. The druggist carries in his stock more elegantly prepared plasters, ointments and nicely smelling clay poultices. While another having been taught, through literature, that a certain patent medicine is a cure-all, invests his hard-earned money in a worthless, often harmful preparation. The patent medicine venders with their alluring literature, their assurance to the patient that their preparation is the best and only substance to cure him, giving him copies of various endorsements received, followed up by a letter written on a nicely printed letter-head, succeeds in inveigling the unwary victim to enrich the coffers of those human parasites who live and thrive upon the weak. The abominable practice of those patent medicine folks who put on the market and advertise as specifics, pebbles of rank composition, to cure the various chronic diseases as epilepsy, chronic nephritis, diabetes, etc., is a pernicious and inexcusable act. And the quack who will make a diagnosis, for a patient, by mail, and offers to send the patient a trial bottle gratis, performs an unlawful act. He invariably dispenses an alcoholic preparation under the guise of a drug thus escaping the liquor tax. That many have gone to an untimely grave as a result of taking those patent alcoholic preparations in the hope of curing them of tuberculosis is self-evident.

We have with us many mental defectives who have been given various preparations of opium during their childhood by a well-meaning, kind-hearted, yet ignorant mother. Our asylums are filled with pitiable cases of insanity due to self-medication in early childhood or offsprings of parents whose mental faculties have been dulled by the use of opiates, cocaine or alcohol. Our blind asylums contain many unfortunate children, who having had ophthalmia neonatorum, have become a charge on the state and been deprived of that greatest of God-given sense, sight. Yet we find advertisements in the newspapers that gonorrhea can be cured in 24 hours. Is that not one of the most abhorrent methods of self-medication, when some unfortunate accepts

*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

the promises and follows the directions of those heartless creatures who prey upon the unfortunate? Is it any wonder that so many salpingo-oophorectomies are performed when such people are permitted to foster their wares upon the public?

Some of the most dangerous drugs exploited by the patent medicine man, and I dare say by some unscrupulous pharmacists, are the headache tablets that contain one of the coal-tar derivatives. These tablets are so easy to obtain and so swift in their action that the patient believes he has found a swift and cheap cure. It urges him on to further self-medication. If some new trouble should arise he may go to the druggist, to whom he tells his tale of woe—the druggist apparently listening, will prescribe some patent drug and send him away with the assurance of a cure.

That good neighbor through sympathy for the patient and believing he is doing a kind and brotherly act advises him to take the same medicine that the Doctor prescribed for the neighbor is one of the fruitful sources of self-medication. And the physician who tells his patient to go to the drug store and buy a certain drug urges and teaches the patient that baneful practice. Would he not hesitate to tell him to buy twenty-five cents worth of morphine or cocaine? Yet why should he or does he tell him to purchase a dozen aspirin tablets or ten cents worth of quinine or a pint of elixir I. Q. & S.? The patient employs the physician to cure him and not to teach him self-medication. He is interested in himself and not in the science of the physician and does not care what is prescribed he wants to be cured. Possibly the physician does not realize the harm there may result from such practice. If his purpose be to save money for the patient, then he had better ask the druggist to give medicine without profit. The physician ought to know better and should do better. He should try to eliminate the evil and not encourage it, and if he really has the welfare of his patient at heart he will not do it.

There can be no objections to self-medication when such is done upon a sound rational basis and by those able to make a diagnosis and prescribe intelligently. Yet, how many can do so? To diagnose a case requires the best of medical training and sufficient practice to acquire the skill. It is the hardest part in the practice of medicine and must be done by one who is not biased nor by one whose personal interest is involved. The personal equation hinders the proper diagnosis of a case, and the proper treatment of the same suffers likewise. The physician realizes this when he becomes ill, he knows that auto-diagnosis is impossible, he cannot examine himself

and cannot prescribe for himself intelligently.

In prescribing drugs the physician knows the physiological action and their therapeutic indications and avoids all danger which the self-medicator is liable to aggravate. For instance, he will not give cathartics in volvulus or strangulated hernia, not opiates as an hypnotic to an infant as so many kind-hearted mothers do. Too numerous are the objections to self-medication, therefore let these few suffice, and let us strive to eliminate this evil among a people whose interest is theirs not ours.

This evil can only be eradicated by educating the people and by effective laws. The laity must learn that drugs ought and must be employed scientifically and prescribed intelligently by those able to make a proper diagnosis. They must be taught the harm that may result to themselves and their offspring if self-medication be persisted in.

If the mother were told the harmful effects and taught the physiological action of paregoric she would cease its use and warn others. If she were told that most of the soothing syrups contain opium or one of its derivatives and that it hides and obscures the cause of the baby's ailment she would discontinue using it so indiscriminately for every irritable symptom of the baby. The asthmatic and the sufferers of hay fever must be warned about cocaine, the principal ingredient of most of the patent asthmatic and hay fever remedies. The tubercular patient, in his anxiety to be cured, easily becomes a victim of patent medicine. He is easily influenced by the promises of the quack and easily succumbs to their ensnaring grasp. Many sufferers of malignant growths, epilepsy, diabetes, rheumatism or other curable and incurable diseases become a prey of the quack and nostrum vender.

The Journal of the A. M. A. and Collier's Weekly have so bravely and fearlessly exposed the fraudulent methods of those human parasites, that it behooves the physician to help spread that propaganda they have so unselfishly undertaken, thus aiding them in destroying the evil and saving life. The harmful effects of self-medication, especially the taking of patent drugs, should be prominently brought to the attention of the laity. This can be done by public lecture or private conversation with our patients, friends or acquaintances. Where neither are practicable, then literature, which is easy to obtain and so cheap, can be distributed among that class of people where it would do the most good.

Another way to curb the insatiable greed of the nostrum venders is effective laws. Each

state ought to have laws on their statute books prohibiting the sale of dangerous drugs by anyone not qualified to so prescribe. Every bottle or package containing patent medicine should state on its label the ingredient therein. No untruthful statement pertaining to its therapeutic indication permitted. The National pure food and drugs act has recently been amended whereby the deception as to the therapeutic indication of drugs so persistently and indiscriminately practiced by the nostrum venders can be curbed. It ought also absolutely prohibit the transportation of habit-forming drugs from one state to another, except within the legitimate channels of trade or by a qualified physician. Then the selling of morphine to cure the morphine habit, or cocaine to cure hay-fever would be stopped.

I am aware of the fact that many people look with suspicion at the motive of the medical profession when they strive to eradicate an evil. Let that not deter us from doing that work which is for the good of humanity and which each of us ought to consider a duty. It is by persistently striving to attain that which is good that we accomplish anything. Therefore let us use every legitimate means possible of eradicating this evil, especially among those who are ignorant of the ingredients they use.

When the time comes that the laity awakens to a realization of the harmful effects in the indiscriminate use of self-prescribed remedies and accept that which is scientifically indicated, after an intelligent diagnosis has been made, then we may look forward to a better race, a race that will gradually eliminate all preventable diseases. They will learn that hygienic conditions and a properly prescribed remedy is essential to the preservation of health and the cure of diseases. The physical and mental conditions of their offsprings will be so nearly balanced that the world will say, "he is a man." The admissions to our insane and blind asylums will gradually decrease in number, our criminally defective become lessened, thus permitting our asylums to become hospitals and homes for the sick and aged, and life be one sweet round of earthly existence.

This is a consummation devoutly to be wished.

BOOK REVIEWS

A Manual of Personal Hygiene.—Proper Living upon a Physiologic Basis. By Eminent Specialists. Edited by Walter L. Pyle, M. D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. Fifth Edition, Revised and Enlarged. 12mo of 516 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$1.50 net.

The Fifth Edition of this successful book shows on every page evidences of the most conscientious revision. Dr. Pyle has gathered around him as collaborators men who know their subjects, and better still, they know how to impart their knowledge. We emphasize this fact particularly, because Pyle's work is intended for the general public.

By far the most important addition to this edition is the chapter on Food Adulteration and Deterioration by that eminent benefactor, Harvey W. Wiley. This chapter alone is worth the price of the book to every mother who naturally is interested in the health of her family.

The book in every way is excellent, not the least feature by any means being the chapters on Home Gymnastics and Domestic Hygiene. We strongly urge that every doctor recommend this book to his patients. It should be on the library table of every home.

A Text-Book on the Practice of Gynecology.—For Practitioners and Students. By W. Easterly Ashton, M. D., LL. D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Fifth Edition, Thoroughly Revised. Octavo of 1100 pages, with 1050 original line drawings. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$6.50 net; Half Morocco, \$8.00 net.

The writer has always held that Dr. Ashton's Gynecology is the most practical all-around work on this subject ever published. Five editions and seven reprints, (a total of twelve printings) in seven years, certainly shows that he is not alone in his opinion. Dr. Ashton set out to write a book that took nothing for granted—and he wrote it. Furthermore he illustrated it with over 1000 line drawings that were new and that show just what they should show, and nothing more. This made for clearness, and these two features insure the success.

In revising his work, Dr. Ashton has not lost sight of his original plan. He has added all the new advances in the same detailed way. He has added much new matter on the blood in relation to surgery; on the DeKesting-Hart method of thermoradiotherapy and the fulguration treatment for Cancer. He has added the recent advances in diagnosis and treatment of syphilis with special reference to excision of the primary lesion, and to the use of salvarsan. The subject

of gonorrhoea has been brought right down to date, including the use of stock vaccines. The hormone and its bearing upon diseases of women has been fully presented. The Fowler-Murphy method of treating suppurative peritonitis, the use of iodine as an antiseptic and in sterilization of the skin for operation has been given the places their usefulness undoubtedly demand.

Many changes have been made in the operative technic and new operations substituted for those more or less obsolete. Probably the most important additions, in this part of the work is the inclusion of Baldy's round ligament operation for retro-displacement, Ward's method of operating for inaccessible vesicovaginal fistulas has been fully described. Tuttle's proctoscope and sigmoidoscope have been substituted for speculums with reflected light. The operation of appendectomy has been entirely rewritten and the author's method of securing the colon with Mohnyhan's clamps substituted for the former technic. These are only a few of the great number of important changes throughout the book. Ashton at once jumped into the fore-rank of books covering this field. This new edition will undoubtedly strengthen its position. As I said above, I think it is without question the best book on gynecology before the profession today.

Diseases of the Stomach, Intestines, and Pancreas.—By Robert Coleman Kemp, M. D. Professor of Gastro-Intestinal Diseases, New York School of Clinical Medicine. Second edition, revised and enlarged. Octavo of 1021 pages, with 388 illustrations. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$6.50 net; Half Morocco, \$8.00 net.

The publishers call this new edition of Kemp a revision. They would have been more correct had they called it a new work, for that is what this new edition really is. Perhaps the most noteworthy additions are an extended chapter on the pancreas covering 100 pages, and one on colon bacilli infections. These are extremely complete and strikingly expressive of the newest thought.

A chapter that has been rewritten is that on the Esophagus and its diseases. Here the reviewer finds all the recent work in this field presented in a way most available for every day practice.

The same is true of the section on Gastric Cancer. In fact, there is nothing of real value omitted in any of the three fields covered. Diagnosis and Treatment are particularly full throughout the book and Dr. Kemp has introduced a number of valuable methods not to be found in other works. In fact, he has introduced some methods that are new to this country.

These three fields are always a sort of trouble to the general practitioner, but with this volume he

will find the rough ways made smooth and the crooked paths made straight.

Text Book of General and Special Pathology. By Henry T. Brooks, M. D., former professor of Pathology at the New York Post-Graduate Medical School and Hospital; consulting Pathologist, N. Y. Hospitals; Bacteriologist to St. Mark's Hospital, New York; etc., illustrated with 500 half tone and other engravings (110 in colors). to Beth-Israel, New York City, and New Roch-also 15 full page plates in colors, containing 40 figures. Published by F. A. Davis Company, Philadelphia. This book meets with the requirements in a very satisfactory way to those who desire standard references for General and Special Pathology. The illustrations are good, texts clear and the scope of the work sufficient for the general practitioner.

International Clinics, Volume 3, 22nd Series.—Some splendid articles, under the department of Diagnosis and Treatment, are to be found in this volume. The diagnosis for treatment of locomotor ataxia, by Maloney; the treatment of chronic Endocarditis, by Williams, are two of special value; spontaneous gangrene is treated by Roussel, Tuberculosis of the Genito-Urinary Organs, by Bevan, are two of the best under the department of medicine. The article on Flat-foot is worth the price of the volume. Published by J. B. Lippincott Company, Philadelphia. Price \$2.00.

Muscle Spasm and Degeneration in Intra-thoracic Inflammations.—By Francis Pottenger, A. M. M. D., LL. D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California. Sixteen illustrations. Price \$2.00. C. V. Mosby Company, Publishers, St. Louis, Missouri.

The material combined in this monograph is based upon several thousand physical examinations and the review of this work will add much to the physician's knowledge in making an earlier diagnosis of the tuberculosis.

The change on the part of the muscle and light touch palpation, as outlined in these pages, emphasizes inspection and palpation which have been heretofore neglected in the diagnosis of intrathoracic diseases. If the examiner will apply the principles so thoroughly described by the author, far more knowledge can be obtained than by discussion.

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